Harvesting

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

INVESTIGATION OF FERTILIZER RESOURCES.

La Jolla, Cal.

Jan. 1st 1916.

Chief, Bureau of Soils,

Washington D.C.

Dear Sir:

Since writing to you concerning the conditions as they present themselves in connection with the Fish and Game Commission, I have had several talks with several men in the south. As I stated before, I can find nowhere is ther any actual disposition to in any way intefere with the work of the Bureau. Instead there is a real desire to aid the Bureau in every way possible. The only idea that the persons in the Fish and Game Commission or others have is that there may be no reason for ant friction at any time. I am sure that all of the people here are anxious to see the work go ahead.

I am sending to you a copy of the New Years Annual and you will find several popular articles in it relating to the kelp industry.

Yesterday I spent the day with Mr. Talley and Mr. Watson making estimates of the effects in destruction in the La Jolla and Point Loma Kelp beds. After carefully going over some of the ground with them and later completeing the work along some additional coast line, I am convinced that last week we lost about 25% of the kelp present in the beds locally. The kelp is strewn along the coast in a continous line along the coast from La Jolla to Imperial Beach.

According to the papers Lorned Mnfg Co is having a lot of trouble with their slip again. At present they are unable to work because of the slip being silted up. They are unfortunate in being on the slip that always silts up at every rain.

Swift and Co. have bought the Lorned #3 harvester and are depend

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

INVESTIGATION OF FERTILIZER RESOURCES. #2.

ing upon that for their kelp at pre ent as they lost the Aliceil as I told you some time ago. As a result they are only able to run about half of their driers.

The Aliceil is resting easily on the sand near the Wireless Station. They are now salvaging the engines and hope to save practically everything finally. They are ready to take out all the engines and machinery now. Swift and Co. will probably use the machinery in a new harvester.

The Hercules Co have only cut about 1300 tons this week due to the storm conditions. They are salvaging the Aliceil.

As things look now, the most vital things that need careful study are the effects of cutting and better methods of harvesting so as to get the crop. The percentage of crop obtained is not at all commensurate with the amount that is actually in the beds. I consider this the most important need of the industry at the present time. Estimates have been made by various persons and companies and all the results have varied somewhat, still there is no doubt that the crop is not being harvested to good advantage at the present time. During present abnormal conditions, the products are being obtained after a fashion and the manufacturing end is not interfering with the kelp itself but the problem of harvesting is essential at this time.

Today I had a letter of inquiry concerning the growth of kelp from a fisherman at Redondo. Because of the fact that the northern companies do not give their kelp an opportunity to grow between cuttings, he was of the opinion that the beds therewas killed off. Here at San Diego where there has been a spirit of cooperation, t is condition does not in

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WASHINGTON, D. C.

#.3

INVESTIGATION OF FERTILIZER RESOURCES.

any way appear. Here the beds do replace themselves between the cutting. Of course the companies feel rather put out that the last storm has taken so much of the available kelp but they are optimistic and ready to go to any length to keep going.

The letter that Mr.Markel wrote, I don't believe to be an attempt to alarm the Bureau but rather a rather correct statement of conditions as they actually are at this time. So far as the local officers are concerned they have no instructions to in any hamper the work of the Bureau but rather to assist it in every way possible. The fact that the rumor got out and in fact as statements were made by the Lorned representative at the San Diego meeting, the conclusions drawn were that the present idea is to do some kinds of work that the companies feel they have already experimented with and for further study that so great a quantity of kelp as is asked for is not really necessary. Also that they have located at great expense and are doing work as originally suggested by the Bureau and therefore that they are only right in asking that the supply be not depleted any more than possible. They feel also that with a limited appropriation that too large a plant should not be up for experimental purposes as such a plant could not be econmically changed to try new experiments.

I feel sure that there are no difficulties in the road of the Bureau's work that need interfere with the work.

Sincerely yours

W. C. Crandall

Collaborator.

La Jolla 28th 1916.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

Your telegrams of the 24th and 25th concerning the getting of wet and dry kelp received and will recieve proper attention as soon as the bills of lading arrive.

Last week I made a survey of conditions around Los Angeles andthe beaches. Left here on Tuesday returning on Friday morning.

San Pedro:

Diamond Match Co. has secured a site near Wilmington and are having two scows built at Joe Fellows Boat Yards. Also a kelp cutter on the plan of the Dick Lohman cutter. These are all weel along and should soon be ready for use. The pant is not under way as yet due to the slowness of the railr ad in putting in a spur track. A new difficulty has now come in as the last rain storm filled the channel upon which they are to locate so that it is impossible to navigate the channel. Major Raymond who was in charge of the U.S.Engineers Office for Southern Cal. had promise that if the channel were to silt u that he would see that it would be immediately dredged out. Major Pillsbury who recently assumed the position does not see thkngs that way and as they have nothing to show at the presen time,he does not see that the money should be spent for the dredging. This new condition may have some considerable influence on the future actions of the company.

Longbeach Cal.

Sea Pro

Sea Products Co.

Using one drier at present. Handling about a car of ground kelp every ten days to two weeks. Are now installing two more makeshift rotary driers by means of which they expect to turn out a car every 5 days. The foreman of this work is now Mr.Schoaf who was formerly with the Pacific Products Co and who was the first to put in a small laboratory rotary drier. He and Dick Lohman are working for the firm. T his company now has three scows and a cutter. Two of the scows are good and will carry about 150 tons. At present the company is supplying not only its own wet kelp but is also selling to Simmons Company. Both Mr.Prevet and Mr.Judson, owners are well satisfied with the results of their work. However their installations is really of a temporary character so that they can go out of business without great loss if the price of potash goes down.

National Kelp Potash Co. Dr.Oppenheimer and five associates. Building a house or factory and a scow and cutter. Scow is to be self propelled and to have the cutter attached. Will install rotary drier and only go in for the dried ground kelp. About $ 15 000 capital to go on.

Simmons Factory. Mr.Naylor in charge.

Drying in rotary in leaching out salts as per ~~Pet~~. American Potash Co. method at present. Expect to start the new Naylor process within a few days. This p ocess is now practically installed and was explained to Dr.Davis so I will not describe but will send details of its working if possible later. The harvester and grinder that I wrote about was successful as a grinder but not as a harvester. This defect is blamed upon Jos Fellows by Mr.Naylor and by Mr.Fellows upon the company. Znyhow it did not work and the harvester is now tied up to the wharf and is being used as grinder and a harvester of the Lohman type is to be used as well as a new scow that they are building in their own yards. They evidently cant use their big harvester for some time. Heavy service engines may

remedy the faults.

Pacific Products Co. Out of business.

El Secundo Cal.

Potassium Manufacturing Co. Out of business.

Week before last I learned that D.E.Hughes of the U.S.Engineers Office L.A. was opposed to kelp cutting. I went to see him and also met Major Fillsbury and I talked over the kelp situation with them. I was able to clarify their minds con erning the method of growth, effect upon fisheries navigation factors and similar topics. The interview was successful in showing the fates correctly and disabusing their minds of several erroneous ideas that they had obtained from some fishermen near San Pedro.

Also I met Mr.Kinney of the Industrial Committee of the L.A. Chamber of Commerce and talked over the situation with him. Los Angeles County has passed an ordinance that requires a $5.00 fee per year for cutting kelp.

Digest of present conditions.:

		Daily Average		
Sea Products Co.	Longbeach	1½ tons dry	Adding to plant	Rotary
Simmons	"	1	Changing plant.	Wet
Swift & co.	San Diego	2	Adding to plant.	Rotary
H.A.Blockman	San Diego	½	--------	Open
Hercules Powder Co.	San Diego	----	Building plant.	Wet
National Kelp Potash Co.	Lonbeach	------	Building	Rotary
Diamond Match Co	Wilmington	----	Contemplating	Rotary
Pacific Products Co.	Longbeach		Out f business	
Potassium Man. Co.	Los Angeles		Out of business.	
American Potash Co.			Out of business#	

Stockholders have brought suit against the former directors for

$2,000 000.00 for selling out to Simmons. Apparently there are to be suit and counter suits to quiet the old mess. I saw Mr. Gleason the formere president and he expects that the case will come to trila in a month or six weeks.

Conditions remain unfavorable for kelp work because of continued rain. All channels are silted up at Longbeach so that work is only possible at high tides.

Yours truly

W. C. Crandall

Feb.20th 1916.

Chief,Bureau of Soils,

Washington,D.C.

Dear Sir:

Last Sunday the 13th I took a trip down San Diego Bay to see the Hercules Powder Co, kelp plant. This plant is was near the outlet of Otay river where there was a flood recently. The flood did not reach the site but has prevented the approach from the land for several weeks. Also it caused silt to be deposited near the location in the bay and this has added to the difficulties that the company has had. In spite of this the work is going along rapidly under the direction of Mr.Tally. At the time that i visited the plant there were two piledrivers on the work one on the shore and one out in the bay. They also had a large derrick that is on a barge, three scows containing pipe of various sizes up to about 10". Four scows were filled with lumber and there were two good sized booms of piling. This piling was from 30-40' in length. A high voltage line had been run in and the round was evidently being laid out for the placing of buildings. I was unable to land on account of the tide being out but got within a couple of hundred feet of the shore. A surprising thing to me w was the weakness of the wharf that they seemed to be starting. The shore b bents have only two p les to the bent and the structure is a weak one. I should have expected a much heavier and stronger construction. However the work has not advanced far enough to get a good idea of it. Fortunately for me, one of the engineers is to be a man that I had in my employ as inspector on the pier that I have just completed and this will be of advant t_ge

tage no doubt altho Mr.Tally and Mr.Markel have been very kind in all my dealings with them. However this will give me a closer touch than I could have otherwise with men who did not know me as well personaaly.

Concerning the Swift people, I am enclosing a newspaper clipping that tells what I saw yesterday at the new plant in San Diego. They have 24 piers of concrete placed that are to receive driers. Nothing else is completed furthere than showed a month ago.

Concerning the Simmons plant at Longbeach, I have been unable to get information recently. Train service to Los Angeles only opened up day before yesterday and I have been too busy overcoming the effects of our last storm to take time to spend several days as it required to go to Los Angeles and investigate. One thing I have found out is that their cutter and harvester is not a success as it is unmanagable in the ocean. The crushing and pressing portion works O.K. Until I can see Naylor, I am unable to say what their plans will be.

From all reports the only really successful cutter is one not unlike our socalled Lohman cutter and harvester and I anticipate that all will come to that type before they are through. That is the type that Swift is using sucessfully.

I shall try and get to Los Angeles during this week to pick up what news I can for you.

Yours respectfully.

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

March fifteen,
1 9 1 6.

ALL EMPLOYEES:

We are this day in receipt of the following letter, which is self-explanatory.

"TREASURY DEPARTMENT
Washington
March 13, 1916."

"The Honorable,
The Secretary of Agriculture.
Sir:

I have your letter of the 9th instant, requesting my decision as to whether an employee traveling on public business who occupies a double berth in a sleeping-car jointly with his wife is entitled to reimbursement for the full amount charged for the double berth or only of one-half.

I advise you that he is entitled to reimbursement of one-half only. The same principal applies as in the decisions of this office published in 21 Comp. Dec., 291, 599 and 622, holding that an employee of the Government is entitled to be paid only one-half traveling expenses incurred jointly with his wife.

The question is one of actual expenses and when an employee uses a room or berth jointly with another he has incurred an actual expense of one-half the value of the room or berth. What it would have cost if he had been alone is immaterial for he did not have the exclusive use."

Very respectfully,

A. Grice.

Chief Clerk.

Form 1204

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT

GEORGE W. E. ATKINS, VICE-PRESIDENT BELVIDERE BROOKS, VICE-PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
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If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT

15 BY.....W..... 53 GOVT.

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A.....Washington,D.C. Mar 208PM Mar 18-16

W C Crandall,

Scripps Biological Inst,La Jolla, Cal.....

We need Kelp for further experiments please learn from Managers of Various plants if they will co'operate by furnishing immediately free or at nominal price a car load of kelp as it comes from the drier, without grinding wire best term you can secure.

Whitney.

12.57P.M.

Phoned Barnhart
1 20P

La Jolla Mar.19th 1916.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

Your wire of the 18th concerning the getting of a carload of kelp dried and unground reqched he over the telephone late yesterday afternoon. I immediately looked up S.G.Smith, manager of Swift's but found that he was in San Francisco so I wired him for terms. I then took the Owl for Los Angeles and this morning I saw Mr.Naylor of the American Products Co. (Simmons) and he promised to have terms for a carload he e on Tuesday. I then saw Mr.Privett of the Sea Products Co., and he promised to see if they could submit terms. I anticipate that I shall have telegraphed a reply by Tuesday night.

In connection with the different firms I find that the Sea Products Co. have sold their output for a year in advance but they will tyy to get in the order if possible and their terms are acceptable. The American Products Co. suddenly seem very anxious about the potash that they are getting and Naylor states that they need every bit that they can get but that he will try to see what he can do in the way of cooperation. Somehow there seems to be a nigger in the woodpile so far as Mr.Naylor is concerned as some months ago he told me that by his process he was able to get far greater amounts of potash out of kelp i.e. KCl than was shown in the government reports. In other words he was going to show us up. Today he claimed that the amount was far less that we had shown and that many other things were present than we had shown. A while ago he didn't care about potash and now he wants it badly. Just

#2.

Just what he is up to I don't know but it was rumored that he was to supply the Diamond Match Co. Anyhow he is just reve5sing all of his former staements today.

I expect to get results from Swifts rather than from either of the Longbeach firms.

I also saw Mr.Blockman and asked him for a figure but I do not anticipate that the dried kelp that he turns out would be satisfactory. In fact it is not driedbwell enough to stand a freight haul without decaying.

Yours truly,

W.C. Randall

A.

March 21, 1916.

Mr. H. A. Blockman,
San Diego, California.

My dear Mr. Blockman:

Your telephoned offer of a carload of kelp at the rate of $32.50 per ton, baled, delivered at car with the time limit of one month received, and terms telegraphed to Washington.

Thanking you for your kind attention, I am,

Yours sincerely,

Business Mgr.

March 21, 1916.

Mr. I. Naylor,
American Products Co.,
Long Beach, California.

My dear Mr. Naylor:

Your offer of kelp at $50. per ton received, and offer forwarded by wire to Washington. From our talk Sunday, this means kelp sacked.

Thanking you for your quick and kind attention to this matter, I am,

Yours sincerely,

Business Mgr.

Form 2289 N

WESTERN UNION

TELEGRAPH WESTERN UNION AND CABLE

NIGHT LETTER

NEWCOMB CARLTON, PRESIDENT

GEORGE W. E. ATKINS, VICE-PRESIDENT BELVIDERE BROOKS, VICE-PRESIDENT

RECEIVER'S No.	TIME FILED	CHECK

SEND the following Night Letter, subject to the terms on back hereof, which are hereby agreed to Mar 21 1916

To Soils

Washington DC

American Products Co, Long Beach, Carload rate fifty dollars ton, sacked, rotary dried

Blockmans San Diego carload rate thirty-two dollars fifty cents ton baled air dried

Snift cannot furnish.

Advise first offer.

Crandall

SENDER'S ADDRESS FOR ANSWER

[illegible]

SENDER'S TELEPHONE NUMBER

[illegible]

ALL NIGHT LETTERS TAKEN BY THIS COMPANY ARE SUBJECT TO THE FOLLOWING TERMS:

The Western Union Telegraph Company will receive not later than midnight **NIGHT LETTERS,** to be transmitted only for delivery on the morning of the next ensuing business day, at rates still lower than its standard night telegram rates, as follows: The standard day rates for ten words shall be charged for the transmission of fifty words or less, and one-fifth of such standard day rate for ten words shall be charged for each additional ten words or less.

To guard against mistakes or delays, the sender of a night letter should order it REPEATED, that is, telegraphed back to the originating office for comparison. For this, one-half the unrepeated night letter rate is charged in addition. Unless otherwise indicated on its face, THIS IS AN UNREPEATED NIGHT LETTER AND PAID FOR AS SUCH, in consideration whereof it is agreed between the sender of the night letter and this Company as follows:

1. The Company shall not be liable for mistakes or delays in the transmission or delivery, or for non-delivery, of any UNREPEATED night letter, beyond the amount received for sending the same; nor for mistakes or delays in the transmission or delivery, or for non-delivery, of any REPEATED night letter, beyond fifty times the sum received for sending the same, *unless specially valued;* nor in any case for delays arising from unavoidable interruption in the working of its lines: *nor for errors in obscure night letters.*

2. In any event the Company shall not be liable for damages for any mistakes or delay in the transmission or delivery, or for the non-delivery, of this night letter, whether caused by the negligence of its servants or otherwise, beyond the sum of FIFTY DOLLARS, at which amount this night letter is hereby valued, unless a greater value is stated in writing hereon at the time the night letter is offered to the Company for transmission, and an additional sum paid or agreed to be paid based on such value equal to one-tenth of one per cent. thereof.

3. The Company is hereby made the agent of the sender, without liability, to forward this night letter over the lines of any other Company when necessary to reach its destination.

4. Night letters will be delivered free within one-half mile of the Company's office in towns of 5,000 population or less, and within one mile of such office in other cities or towns. Beyond these limits the Company does not undertake to make delivery, but will, without liability, at the sender's request, as his agent and at his expense, endeavor to contract for him for such delivery at a reasonable price.

5. No responsibility attaches to this Company concerning night letters until the same are accepted at one of its transmitting offices, and if a night letter is sent to such office by one of the Company's messengers, he acts for that purpose as the agent of the sender.

6. The Company will not be liable for damages or statutory penalties in any case where the claim is not presented in writing within sixty days after the night letter is filed with the Company for transmission.

In further consideration of the reduced rate for this special **"NIGHT LETTER"** service, the following special terms are hereby agreed to:

A. **NIGHT LETTERS** may at the option of the Telegraph Company be mailed at destination to the addressees, and the Company shall be deemed to have discharged its obligation in such cases with respect to delivery by mailing such **NIGHT LETTERS** at destination, postage prepaid.

B. **NIGHT LETTERS** shall be written in plain English. Code language is not permissible.

7. *No employee of the Company is authorized to vary the foregoing.*

THE WESTERN UNION TELEGRAPH COMPANY
INCORPORATED
NEWCOMB CARLTON, PRESIDENT

CLASSES OF SERVICE

TELEGRAMS

A full-rate expedited service.

NIGHT TELEGRAMS

Accepted up to 2.00 A.M. at reduced rates to be sent during the night and delivered not earlier than the morning of the next ensuing business day.

DAY LETTERS

A deferred day service at rates lower than the standard telegram rates as follows: One and one-half times the standard night letter rate for the transmission of 50 words or less and one-fifth of the initial rate for each additional 10 words or less. Subordinate to the priority of transmission and delivery of regular telegrams. Must be written in plain English. Code language not permissible. Telephonic delivery permissible. Day Letters received subject to express understanding that the Company only undertakes delivery of the same on the day of their date subject to conditions that sufficient time remains for such transmission and delivery during regular office hours, subject to priority of the transmission of regular telegrams.

NIGHT LETTERS

Accepted up to midnight for delivery on the morning of the next ensuing business day, at rates still lower than standard night telegram rates, as follows: The standard day rate for 10 words shall be charged for the transmission of 50 words or less, and one-fifth of such standard day rate for 10 words shall be charged for each additional 10 words or less. Must be written in plain English. Code language not permissible. Mail delivery, postage prepaid, permissible.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

INVESTIGATION OF FERTILIZER RESOURCES.

La Jolla, California,
March 22, 1916.

The Sea Products Company,
Long Beach, California.

Dear Sirs:

Your letter of March 20th, 1916 received and I have this day forwarded same to the department for their consideration.

Thanking you for your kind attention in this matter, I am,

Sincerely yours,

WCC:K

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.

SOIL SURVEY.

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

La Jolla, California,

March 22, 1916.

Chief, Bureau of Soils,
Washington, D. C.

My dear Sir:

Inclosed find telegraphic offer from the American Products Company, Long Beach, California, for carload of kelp, also a letter from the Sea Products Company, Long Beach, California.

As per my telegram of March 21st, Mr. H. A. Blockman will deliver air dried kelp, baled for $32.50 f.o.b. car, San Diego. I am afraid that there will be two faults found with the kelp. First, it would not be dry enough to prevent its decaying in transit; second, it would be dry enough so that some of the salts would effervesce and be lost in transit.

Mr. Smith of Swift's has only been able to get out four cars of kelp since he commenced their run the latter part of October and he does not see how they could possibly give such a quantity at the present time to the department.

Yours sincerely,

WCC:K

715 STORY BLDG. PHONE: F 3730

G. M. BERNSTEIN
INVESTMENT - SECURITIES
LOS ANGELES, CAL

March,
Thirty first,
Ninteen Sixteen.

Prof. W.C.Crandall,
The Scripps Institution,
La Jolla, California.

My dear Mr Crandall:-

I am desrious of learning whether the Federal Government or State Authorities have enacted yet any ruling affecting the utilization of kelp in the State.

You will greatly oblige me by giving me any information as you can, with reference to the above,as I am still much interested in the Industry and naturally want to keep as well informed as may be possible regarding same. I am not doing any thing just now,but expect to do so at an early date even if I have to get in line with so many others that are earnestly in the field already.

Thanking you for any information that you may be able to give me and trusting that you may be well, I remain,

Very truly yours,

G. M. Bernstein

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

FWB.J

INVESTIGATION OF FERTILIZER RESOURCES.

March 31, 1916.

Capt. W. C. Crandall,
Scripps Biological Institution,
La Jolla, Calif.

Dear Capt. Crandall:

Your recent letters of February 28 and March 19 have been received. What you tell us about the different plants operating on the Coast is very interesting. We received word in a round-about way some days ago that the Simmons plant was at present turning out 12 tons of potash salts per day. Apparently this means that the new Naylor process is in operation and producing results. If you can secure any information corroborating this statement, we would be glad to have it.

With reference to the purchase of a carload of dried kelp, you need not proceed further at this time. The matter of an appropriation for additional work on kelp is being agitated in Congress at present and until some definite action is taken there we will not proceed with plans for experimental work here in Washington.

We were glad to learn that you had been able to convince Mr. Hughes and Major Pillsbury that the cutting of kelp would have no injurious effect upon fisheries and navigation and trust that there will be no further difficulty along this line. The small shipment of dried kelp and the keg of wet kelp have arrived in good condition.

We trust you will keep us fully advised of the developments on the Coast, and we should like particularly to learn any details of the Naylor

process in the Simmons factory which you may be able to gather.

Very truly yours,

Frederick W. Brown.

In Charge.

3.50
6.
21.00
2.625
23.625

875
3
2625 :

715 STORY BLDG. PHONE: F 3730

G. M. BERNSTEIN
INVESTMENT - SECURITIES
LOS ANGELES, CAL

April 5th, 1916.

Prof.
W.C.Crandall,
La Jolla, Cal.

Dear Mr.Crandall:-

Your kind favor of the 2nd. instant came to hand day before yesterday and I thank you for the information which you gave me regarding the control of the Kelp Beds.

On due time I will endeavor to learn some more about the matter, enquiring from the Fish and Game Commission, the ruling under which same may be utilized.

Thanks for wishing that I turn out alright in the long run. I have tried hard so far in lining up a kelp proposition but apparently have made the wrong connections. I am more confident than ever for the successful outcome of the venture and expect some time soon to get again busy and try again.

Yes, the Potassium Mfg Co., apparently has been added to that long list of failures; I do not know much regarding their plans as I severed all connection with the Company considerable time ago. I am informed that Mr.Armstrong is in the East talking Kelp to some parties that have corresponded with his Company.

Again thanking you for past courtesies and hoping to see you again some time in the near future, I remain,

Very truly yours,

G M Bernstein

La Jolla Cal., Apr.9th 1916.

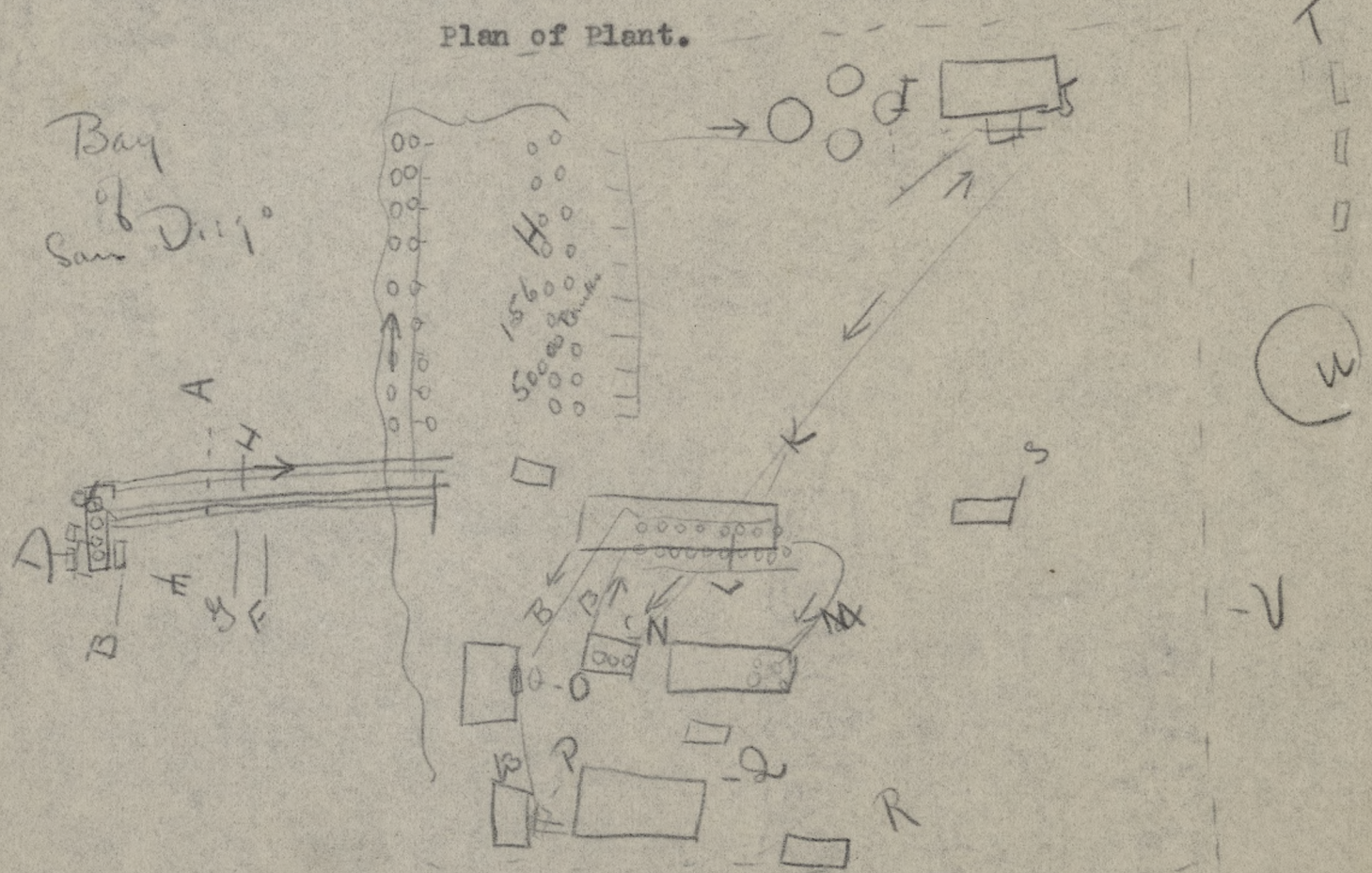
Chief, Bureau of Soils,
Washington, D.C.

Dear Sir:

Last Wednesday I was in Los Angeles on personal business and while there had occassion to run down to San Pedro to Fellows Yacht and Launch Co. where I saw the new pontoon harvester and two 250 ton barges of the ~~Fellows~~ Diamond Match Co. Across the slough I could see the new buildings under construction. Since my report on the flood conditions, the slough has cleared up enough so that they can get to the property on the high tide and are going ahead with their developement. I returned by way of Long Beach but could not see that the new process of the American Products Co. was in operation. I did not go to the plant but passed near it on the car. According to my last report, you will see that at that time the new process was not in opperation and only the potash from the old Oppenheimer Process was being taken out and this would not possibly be 12 tons per day. Cut off 10 tons and one would be nearer it. The new process (Naylor Process) has not been worked long enough yet if at all to produce 12 tons average per day.

Today I drove down to the Hercules Powder Plant ~~with Mr.~~ and there went through the new works with Mr. Smith, manager of Swift's, and Mr. Tally, manager of the Hercules Powder Co. Mr. Tally asked us to consider our trip as a confidential one and I am making the report as such.

Plan of Plant.



A Pier
B 3 Storqge tanks to catch the gronnd kelp as it comes from the barges.
C Pump house
D 2 300 ton barges each with eight compartments fro ground kelp.
E 1 Cutting barge with grinding machine. 25' cutter 10' apron. Usual type, not self propelling.
F 10" pipe to carry kelp to fermentation vats. Liquid used water in kelp and liqours with some values from the plant.
G 12" pipe Water for condensors.
H 12" pipe to carry out plant liquors for the kelp in kelp line F.
H 156-50 000 gal wooden tanks for fermentation of kelp. Contain a mechanical sirrer, air stirrer and hot water coils. In these the substance used to assist fermentation is placed. Time of fermentation estimated as ten days.
I 4 400 000 sedimentation and mud tanks.
J Filter 2 types Oliver and -----.
K-L Hot and Cold separation pans 8 cold 10 hot Dump buckets on eye I beams carry potash salts from hot pans to centrifugal machines.
M Centrifugal machines (5)
N Heat interchangers Double shell type hot on inside, cold on inside so raise and ,ower temperatures of liquids in K*L as desired.
O Predriers to bring liquids from K to nearly a mushy state.
P Drier room Heat from engine room.
Q Engine room 1 700 h p 4 500 h p boilers, compressed air pumps, forece pumps etc.
R Store House
S Office
T Camp 350 men
U Oil tank
V Fence
X Preheater and drier for potash.
Y Laboratory- Miniature plant.
E Cutter efficient to 15 tons per hour crew 3 men per shift. Believe they will double this at least. 2 more harvesters on the way. Thses are to be elf propelled.

1000 men employed on work at present in three shifts 7 days a week.

Expect to run a portion of the plant within a few days.

Between $ 1 000 000 and $ 1 500 000 to be expended before the plant is completed.

Other operations than those under construction to be installed later.

General scheme as above. May not have gotten all the details absolutely correct as Mr.Smith was present and I felt it unwise to be too insistent about some inquiries.

Potash, salt, fertilizer are to be immediate products.

Taking a gamble without real cost data from their experimental plant.

Swifts are rapidly getting in shape for work at their new works.

Have informed those who submitted figures for dried kelp that you do not want same at present.

Yours truly

W. S. DORLAND, PRESIDENT
L. A. BLOCHMAN, VICE-PRESIDENT
SAM FERRY SMITH, VICE-PRESIDENT
O. E. DARNALL, CASHIER
P. C. KELLEY, ASST. CASHIER

Security Commercial & Savings Bank

FORMERLY BLOCHMAN BANKING CO.
ESTABLISHED 1893

CABLE ADDRESS, "BLOCHBANK"
CODES:
LIEBERS
A.B.A. & A.B.C. 4TH EDITION

San Diego, Cal. April 10th 1916

Prof. Crandall,
La Jolla.

Dear Sir,— I note your remarks concerning dry kelp and the matter has been deferred pending an appropriation — Possibly when you get ready for it we may be able to supply you on much shorter notice as we are preparing to dry on a much larger scale than heretofore.

Yours Truly
L. A. Blochman

(New address:
San Diego Kelp Ash Co.
Room 224 Granger Block
San Diego, Calif.

Apr.15th 1916.

Chief, Bureau f Soils,

Washington D.C.

Dear Sir:

Enclosed find a letter from Mr.George W.Simmons relative to dried kelp. This letter speaks for itself. What do you desire done with it?

Yesterday Mr.Simmons and Mr.Naylor were here and they told me that they had just shipped a carload of muriate of potash to New York and suddenl find that there is no demand for potash. Also that the German Syndicate told a possible customer that if they took that carload that then they could never get any more potash from them. This sort of action seems to me worth studying and the men who are putting in their time and money developing a supply that is necessary and needful should have active cooperation from the government in protecting their trade interests. I did not get all the details of the transaction as Mr.Simmons just stopped in at the noon hour as he was on his way to San Diego.

Sincerely yours

Form 1204

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT

GEORGE W. E. ATKINS, VICE-PRESIDENT BELVIDERE BROOKS, VICE-PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT 6BYWN 33 GOVT

A WASHINGTON DC 1152am APRIL 30 16

CAPT W C CRANDALL

SCRIPPS BIO STA LA JOLLA Calif.

REPORTED HERE SIMMONS RESTRICTED BY INJUNCTION FROM CUTTING KELP BECAUSE OF INJURY TO BEACH BY INCREASED WAVE ACTION PLEASE ASCERTAIN FACTS AND REPORT-

WHITNEY

1050am

Phoned Capt Crandall
@ = 4-20/16

mail.

Apr. 20th 1916

Chief, Bureau of Soils:

Washington, D.C?

Dear Sir:

I had a long distance telephone concerning your telegram of this morning. As per my telegram there has been no injunction gotten out against the Simmons people. If there is such, they will advise me at once. There was some talk about doing something in some of the Los Angeles papers but all that seems now to have died out.

Yours truly

W C Crandall

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

FWB.J
INVESTIGATION OF FERTILIZER RESOURCES.

April 27, 1916.

Capt. W. C. Crandall,
Scripps Biological Institution,
La Jolla, California.

Dear Sir:

The question has recently been raised of the possibility of transplanting certain of the giant kelps of the Pacific Coast ,to the Coast of New England and possibly Long Island Sound, where a rocky bottom exists. It is probable that these experiments should be limited to Nereocystis luetkeana and Macrocystis pyrifera, since these species are found over a wide enough climatic range on the Pacific Coast to afford hopes of their successful propagation in the latitude of New England. Will you be kind enough to furnish us with any information you may have which will throw light upon this problem. The Bureau of Fisheries has agreed to cooperate in an experiment of this kind and offers the use of one of their fish cars in which any desired conditions of temperature or water can be maintained throughout the journey across the country. We are anxious to learn as much as possible about the time of year when such an experiment would be most likely to succeed; whether it would be more advisable to attempt the transfer of spores or young plants, or both, and any information you may be able to furnish with regard to best methods for securing the material and the conditions under which it should be kept during the trip.

Capt. W. C. Crandall, #2, 4-27-16.

If possible, we would like to have you conduct some experiments in collecting and keeping spores and young plants, if obtainable, under varying conditions to ascertain what conditions are most favorable for the success of such an undertaking.

Any assistance you can render us in this matter will be very welcome.

Very truly yours,

William A. Taylor

Chief of Bureau.

Capt. W. G. Crandall, #2, 4-27-15.

If possible, we would like to have you conduct some experiments in collecting and keeping spores and young plants, if obtainable, under varying conditions to ascertain what conditions are most favorable for the success of such an undertaking.

Any assistance you can render us in this matter will be very

Very truly yours,

Chief of Bureau.

Discussion of Kelp companies - Operation

La Jolla, Apr. 30th 1916.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

Kelp conditions seem to be the main consideration in marine circles at the present time due to the increased business in barges, launche cutting and harvesting machinery as well as the plants on shore that are to handle the products. On Friday I spent the day visiting the plan ts at San Pedro and Longbeach. I first went to the Diamond Match Co. which is building at Wilmington. They have 2½ acres of land about two miles from the mouth of San Pedro harbour on a slough that is at present inaccessible except at high tide for their empty barges but they have the promise that this slough will be dredged out shortly so that they can pro ceed with their working plans. They have two barges built and a ~~repell~~ cutting-harvestor barge. On the grounds they are constructing a plant concerning which they are very secretive and Mr. Wey, their manager was very reticent about all of their work. This has been true in all our dealings with this company altho they have asked for more assitance than any of the others that are now operating or immediately expecting to. However some of their steps are obvious. The kelp is to be brought ashore from their barges on a conveyor that will automatically carry the kelp to two 8' rotary driers that are guaranteed to handle to 10% dryness 125 tons of wet kelp each daily. This ~~wet-kel~~ partially dreid kelp is ~~to~~ carried to a buiding that is five stories high and that has a couple of t tanks on the top floor. Other machinery is also placed on this floor. From the top floor the kelp is brought down through machinery in the floors through machinery that I ou

could not see. Apparently there are series of tanks and supply tanks that probably contain materials for the treatment of the kelp so that when the kelp arrives at the lower floor, it is dried as salts in two centrifugal machines and then passed onto some tables where a separation takes place before the salt or salts are separated and then passed on to a loading room on the rear of the lot. They have a boiler room that generates 250 h p and use a lot of motors in the works. However I am in dark as to what they are doing and until I can get under their skins I will be unable to give you more than superficial data concerning them. they expect to turn out a little potash so they claim today. On the 8th they expect Mr. Cruser again and then they will start the plant if all goes well by the 15th. If you can get after them from the other end I amy be able to do something with them but otherwise they seem to be afraid that something is going to leak. Cruser is the man that tried to get data more or less surreptitiously from the American Potash Co. i.e. to the extent of taking data fromtheir plant and then not even giving the owners of the plant an idea of his findings. Also he tried to pump everyone in the kelp work but this without success as at one time Dr. Cameron in my presence told him plainly that either he must be willing to talk plainly with us or else hunt things on his own bottom.

American Products Co. are working a small unit but are still unable to get their barges in except at low tide so that their main plant is not yet steamed up. They are now working the old plant of the American Products Co. and an emergency plant that was installed. Next week the dredger will have opened up a passage for their boats and they can get material for their work. So far they have done little. They are willing to cooperate in every way and altho Mr. Naylor is more or less apt to talk clear around the point and I cannot say that I understand their process still the products are available for us in any amounts that

we may desire. He has promised to cooperate with Mr.Scribner who is in charge of the l cal Agricultural Exhibit at the Exposition. These men I got together as per letter of introduction to me by Mr.Scribner. The evident activity of the American Products Co. is evident from the fact th that they are actually placing five cuttingbarges in shape to do their harvesting. In connection with this Mr.Porteous told me of an interesting experience of his with an unknown man whom he described to me. One evening he noticed a man had come along the slough to one of their barges and was taking measurements of it. He approached the man and ordered him off. From his description I immediately recognized the man as being Mr.Ennis who has the only patent on the barges at present. This was the way in which he got his original ideas by seeing the old Lohman cutting barge.

The Sea Products Co. is shippi ng a carload of char once every ten days. They find that they get 1 ton of dry for 7-8 of wet and about 1 ton of char to 20 tons of wet. They are working st adily and have a contract that runs for several months yet.

National Kelp Potash Co. ran out to the beds on Wednesday last and brought in their first load of kelp. They have one 6' drier and only xpect to turn out the dried kelp at present.

Pacific Products Co. is reorganized with Mr.Ennis associated with them. He is to put up the drier and other money the plant. At the plant they are excavating for a drier base apparently. Noone was about so Icould get few details.

Locally in San Diego, the enclosed clippings show what is going on.

Sincerely yours, W. C. Crandall

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

FWB.J
INVESTIGATION OF FERTILIZER RESOURCES.

May 8, 1916.

Capt. W. C. Crandall,
Scripps Biological Institution,
La Jolla, California.

Dear Sir:

Your interesting letter of April 30 has been received enclosing clippings from newspapers. We are much interested in the Diamond Match Company plant and have written the home office of the Company asking for authorization permitting you to inspect the plant and secure data as to the processes. I trust this will be forthcoming, and upon receipt of a reply I shall notify you of its terms. In the meantime please keep us advised of any developments in the kelp industry.

We were also much interested in your recent letter in which you intimated that a boycott had been instituted by the German Syndicate against purchasers of potash from kelp. We have written Mr. Simmons for further information on this point but have as yet received no reply. Any further information that you may be able to gather in this connection will be very welcome.

Very truly yours,

Frederick W. Brown.

In Charge.

THE SCRIPPS INSTITUTION FOR BIOLOGICAL RESEARCH
OF THE
UNIVERSITY OF CALIFORNIA

LOCATED AT LA JOLLA
NEAR
SAN DIEGO, CALIFORNIA

LA JOLLA, CALIFORNIA,

May 10th 1916.

Mr.Geo.W.Simmons,

St.Louis, Mo.,

My dear Mr.Simmons:

Your interssting letter of the 4th is at hand. You are as well up on official etiquette as I am and I never know when I am treading on the toes of some favorite from of preceedure. I am mighty glad personaly to have your letter to the Chief and I thank you for it. I hope that I have not committed a faux pau in the matter as I aim to help and not to hinder. I am in the peculiar position of not personally knowing the Chief and so amat times in a difficult position.

Whatever matter you or your associates have confided in me has been given only to the Bureau of Soils and has been sent with the understanding that the matter is confidential material as I prefer that what you want to go to the Press shall go directly through you.

With best wishes,I am

Sincerely yours,

W E Crandall

SIMMONS HARDWARE COMPANY
ST. LOUIS, U.S.A.

OFFICE OF VICE-PRESIDENT

May 4, 1916.

Dr. W. C. Crandall,
La Jolla,
Scripps' Biological Laboratory,
California.

Bear Doctor Crandall:

This morning I received a letter from Professor Whitney, of which the attached is a copy. I am sending you a copy of my reply and am doing so in a personal way, rather than an official way. I am not sufficiently posted on official etiquette, to know whether or not I have committed a mortal sin, by sending to a member of the Department, copy of a letter addressed to its Chief, therefore, please keep to yourself the fact, that I have sent you this letter and recognize that "my heart is in the right place" in doing it.

I want to have you posted on what I have said to Professor Whitney, because I prefer not to have the subject agitated now, or to have any of these people think I am shooting at them.

We are getting along very nicely and expect to ship large quantities of our fertilizer to some of the Fertilizer concerns in the South Eastern Atlantic States.

With kind personal regards, I am,

Yours very truly,

Vice President.

④/OB

Copy to Dr. W. C. Crandall.

May 4, 1916.

Dr. Milton Whitney,
Chief Bureau of Soils,
Dept. of Agriculture,
Washington, D.C.

Dear Doctor Whitney:

Your letter of April 29th reached me in this morning's mail. I fear that Doctor Crandall misunderstood what I said to him, when I was in California, although I readily see how he may have gotten that impression.

As soon as we shipped our car of high grade muriate from Long Beach, I had a telegraphic correspondence with our Eastern representative, covering several days' time, which developed the rather surprising situation,- that a market which we thought would easily gobble up such a small quantity as 25 tons, at the then prevailing price of from $400 to$450 per ton, base 80%, had suddenly changed and showed very little interest in the purchase at any price,- the best definite offer being $250 per ton.

I naturally thought there might be some artificial cause for it and inquired from our representative, whether or not that was a fact. His reply indicated that he was inclined to think it was, as apparently the larger users of this commodity kept in touch with each other and talked things over before any of them made a purchase.

At that time it looked to me very likely, that our inferences from the various evidence we secured from various sources, were correct,- viz., that the German syndicate or its representatives still had some quantities of German muriate on hand in storage, and it seemed at least plausible, that in keeping with their general reputation, they would utilize their ability to furnish this material in future, in order that they might hold their present customers in line.

You are doubtless aware of the terms under which this organization has made contracts in the past and realize that they are arbitrary and not in accordance with what Americans generally believe good business. It was, therefore, our own conclusions, rather than any proof, that this was possibly the reason for the otherwise inexplainable lack of interest in our carload of muriate. With all this fresh in my mind and my telegraphic correspondence with our Eastern representative having at that time developed to the point, which caused me to think that situation likely, doubtless affected the tone of my conversation with Mr. Crandall. As I remember it, I said to him in rather a laughing way, that we were finding a very astonishing condition of affairs, viz., that now that we had potash, nobody

Copy to Dr. W. C. Crandall.

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wanted it and further that I was inclined to think, that at least one concern, whom I might otherwise have sold, was holding off, for fear that a purchase from us might prevent their getting any German supply in future.

We determined to "smoke out" the situation and therefore, through our broker, we rather forced the sale of this carload, which I will tell you in confidence was sold on a basis of $325 per ton.

Last week I was in New York and went all over the situation with our Eastern representative and our broker and became convinced, that the situation was due to a considerable extent at least, to the fact, that the only people who can use high grade muriate at present prices, are those engaged in the chemical trades, and that they are not speculating beyond their immediate wants, or contracting ahead to any great extent, but are buying only for immediate needs. One concern, who I understood had bought 25 tons a month ago at $450 per ton, declined to make any offer on ours, and we were forced to conclude, that it was because they did not want to buy any at that time, regardless of the price.

My experience in New York convinced me, that there was nothing being done by the potash people there, or large consumers of it, that is in any way illegal. Of course, in an abnormal condition of this sort, it is natural that these people should all take unusual steps in regard to their supply of potash,- some who have it, holding it for speculative profits, and others who haven't, but need it, endeavoring in every way to secure it on the best possible basis.

I am sorry that my chance remark has caused a wrong impression to reach you but I can quite understand how Dr. Crandall was doing exactly what you would expect him to do, in reporting to you what I said to him, and you can doubtless realize from this frank, but somewhat lengthy explanation, just how the misunderstanding arose.

You will doubtless be interested to know, that our plant at Long Beach is now operating regularly and while not yet up to its maximum efficiency, is producing a high grade muriate, which runs over 97% and is also producing a by-product fertilizer, which has a potash content of from 10% to 20%, and also contains approximately 2% each of nitrogen and phosphoric acid.

It is my belief that most of our fertilizer by-product will be shipped East, rather than consumed in California. We have I believe, passed the experimental stage and demonstrated that by the process we employ, potash can be secured from kelp to whatever extent capital is willing to be invested for the purpose, as there seems to be an unlimited supply of kelp, at least as regards the possibilities of present installation.

Our little factory was designed to handle 250 tons per day of wet kelp, from which we expect to produce from 5 to 7 1/2 tons of muriate, or possibly we will get our efficiency to such a point that we can produce 10 tons of muriate. In doing so, we have a by-product of 25 tons daily of this fertilizer substance,

wanted it and further that I was inclined to think, that at least one concern, when I might otherwise have sold, was holding out, for fear that a purchase from us might prevent their getting any German supply in future.

We determined to "make out" the situation and therefore, through our broker, we rather forced the hand of this person, which I will tell you in confidence was paid on a basis of $150 per ton.

Last week I was in New York and took all over the situation with our Eastern representative and our broker and became convinced, that the situation was developing to a considerable extent at least, so the fact, that the only people who can use high grade muriate at present prices, are those engaged in the chemical trades, and that they are not speculating beyond their immediate needs, or something of the kind, but are buying only for immediate needs. One concern, who I understood had bought 25 tons a month ago at $450 per ton, declined to take any offer on ours, and we rang forced to conclude, that it was because they did not want to buy at that time, regardless of the price.

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I am sorry that my phrase seems to have caused a wrong impression to reach you but I can quite understand how Dr. Crenshaw was doing exactly what you would expect him to do, in reporting to you what I said to him, and you can doubtless realize from this fresh, but somewhat lengthy explanation, just how the misunderstanding arose.

You will doubtless be interested to know, that our plant is long beyond its experimental stage and demonstrated that by the process we employ, potash can be secured from any dust, cement or blast furnace flue, and that our by-product will be shipped East, rather than consumed in California. We have I believe, passed the

and as our harvesting capacity is considerably in excess of the balance of our plant, we contemplate adding to this fertilizer capacity by the old process of drying and burning the kelp and using the ashes, without any attempt to extract therefrom the various potash salts.

Please accept this letter as a very frank statement of everything which I think youwant to know and favor me by not making public anything in it, without first giving me an idea of what it is you want to make public. I am, of course, quite ready to have you make a report of our new industry and what it is accomplishing, if such is your pleasure, but of course should not be willing to have anything said about our selling prices, or what I told you of the market situation.

Incidentally, we have recently made contracts for some additional carloads of muriate for delivery in May, at figures considerably higher than our first car was sold.

With kind personal regards and trusting I may at no far distant date have the pleasure of calling on you and discussing this matter in detail, I am,

Yours very truly,

C/OB

Vice President.

caw

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

May 10th, 1916.

Mr. W. C. Crandall,
Scrips Institute for Biological Research,
La Jolla, Cal.

Dear Sir:-

Your March-May account for $20.05 is returned herewith for the reason that the jurat is defective in that it was executed before some person other than the postmaster, as is indicated by signature. Kindly swear to the account before some postmaster or assistant postmaster. Please also attach thereto, copy of telegram forwarded on March 18th for which a charge of 40¢ is made. Copies of telegrams are required in all cases and are accepted in lieu of receipts. Kindly also state on voucher No. 3 the purpose for which the automobile was hired.

Very truly yours,

A G Ruce
Chief Clerk.

Enclosure.

May 10th, 1916.

Mr. W. C. Crandall,
Scripps Institute for Biological Research,
La Jolla, Cal.

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Very truly yours,

Enclosure. Chief Clerk.

SIMMONS HARDWARE COMPANY
ST. LOUIS, U.S.A.

OFFICE OF VICE-PRESIDENT

May 15, 1916.

Dr. W. C. Crandall,
Scripps Institution for Biological Research,
La Jolla,
California.

Dear Doctor Crandall:

I have yours of the 10th and assure you that you have not embarrassed us in any way, nor have you, in reporting to your Chief, done anything other than it would seem to me your duty to do.

For your information I enclose copy of a letter which I received in reply to mine, so that the situation is now closed.

I appreciate that you are careful in not giving to the press, or the public, any information which comes to you from us.

With kind regards, I am,

Yours very truly,

G. W. Simmons

Vice President.

④/OB

United States Department of Agriculture.

Bureau of Soils.

May 10, 1916.

Mr. George W. Simmons, Vice President,
Simmons Hardware Co.,
St. Louis, MO.

Dear Mr. Simmons:

Your letter of May 4, has been received and I wish to thank you for your frank statement with regard to the matter. We were glad to learn that your suspicion concerning the German Syndicate had proved unfounded, since such an attitude on their part might have been very serious.

We are also glad to learn that your kelp treating plant is working so satisfactorily and trust that the example set by the plants now operating on the coast may in time lead to an industry which will supply the American demand for potash salts.

Very truly yours,

(Signed) Milton C. Whitney,

Chief of Bureau.

Number 1st

Cheese

4000

June 13th 1916.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

Following is a report of conditions as I found them at Longbeach and San Pedro last Sunday when I made a trip of inspection:

Fellows Boat Works building another harvestor owner not known by me but I believe that it is for the Pacific Products Co.

Diamond Match Co. No curtesies shown. Talked with manager. Last week they commence opperations. 200 tons per day wet kelp. 1st product turned out Saturday from -plant. Were putting a salt through a centrifugal machine when I arrived that looked like a fair grade of KCl. Was now accorded the privilege of seeing more than superficially what was going on. Believe the process simply one of several boilings, evaporation and centrifugal separation. Looks li e an adaptation of Cameron's proposed process of separation.

Sea Products Co. Longbeach 100 tons daily. Incinerating. Active.

Oceanic Engineering Co. Company formed with Judson .president, Prevot sec a etary-tresurer. Shoaf engineer. chemist. Plnat alongside of Sea Products Co. and will assist in getting material for the contract held by the Sea Products Co. Incorporated for $50 000. Own $18 000 worth of boats. Build ng a large harvestor after the lines of Dick Lohman's first one. Placing two 6' rotary driers, two incinerators in a building that is up. Will be up and going in about sixty days. Will have advantage of the contr act that Sea Products have that will run for the next year.

National Kelp Potash Co. Plant completed. Weeks run made. Now changing the feed to the drier. Plant in apparently good shape.

American Potash Co.

American Products Co. Running using 1200 tons wet kelp weekly. Use both dry and wet processes. Things as described previously but I fail to see where the nail boxes come in. No doubt about the KCl but the other things seem to be forgotten for the present or else were a blind. Great stacks of kelp that has passed through the grinder and been leached are being dumped back of the plant and are to be used as fertilizer. Am afraid the mass will rot and be worthless if not handled in a short time. Also that it may become offensive to the people of Longbeach if not handled soon. Smells like rotting pulp from a sugar factory.

Pacific Products Co. Built a small pier, Installing two driers. Ennis back of the game. Evidently trying to get somewhere. Suspect the harvestor seen at Fellows works belongs to them. No one about to question but they ought to be running a 75-100 ton plant in sixty days.

About San Diego Hercules are now working their whole plant altho not to full capacity. Theri new Harvestor was placed in commission last week. I was invited to go out on it but was unable to do so.

Swifts are using about 200 tons daily in new plant. Working smoothly.

Pacific Kelp Co. is trying to get capital to run the plant at Roseville Swift is to give the plant up on the 1st June.

H.A.Blockman is buying up the products from the beach comers and selling to Sea Pr Products Co.

Kelp beds about Point Firmin seem to be in fair shape. Above White's Point they are in fine shape; Do not see that any harm is being done at present by the extensive cutting.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

FWB.J

INVESTIGATION OF FERTILIZER RESOURCES.

June 19, 1916.

Capt. W. C. Crandall,
Scripps Biological Institution,
La Jolla, California.

Dear Sir:

Your letter of June 13 is received and I am glad to learn all you tell us about the developments in the potash-from-kelp industry. Our bill containing the provision for the erection of a government plant on the Coast is still hung up in the Senate but may come up this week.

You have never replied to my recent letter suggesting the possibility of transplanting kelp from the Pacific to the Atlantic side. Letters discussing the feasibility of this proposition have been received from Professors Rigg, Frye, McFarland and Setchell, all of whom agree that the attempt ought to be made, although, owing to the difference in temperatures of the water on the California Coast and on the Coast of Maine, there is some doubt as to whether the attempt will result in success. The Bureau of Fisheries I believe has one of their fish cars now at the San Diego Exposition. If possible, I wish you would communicate with the persons in charge of the car and see what arrangements can be made with them for the transporting of spores and young plants under conditions as nearly those of the natural habitat of the plants as possible. I shall see the Commissioner of Fisheries

within the next few days and have another talk with him with regard to the matter in the effort to reach a definite arrangement with him. I believe that July is probably the best time to make the attempt.

Very truly yours,

Frederick W. Brown.

In Charge.

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

June 23, 1916.

TO ALL CONCERNED:

It is practically certain that the appropriation bill for next fiscal year will not be passed prior to July 1st. Government activities must continue, however, therefore field men will continue with their work in the usual manner until otherwise advised. As soon as congressional action is taken, instructions and letters of authorization will be issued.

A. G. RICE,
Chief Clerk.

P. S. Please forward your June account immediately after the close of the month, or advise the amount thereof.

June 23rd 1916.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

Yesterday at the invitation of Mr. Markel and Mr. Talley of the Hercules Powder Co. at Chula Vista, I spent the day in viewing the various boats, cutters, harvesters, and plant of the company. The principal boats are the Bahada and a couple od smaller tugs or gasoline launches. The harvesters are the

Bacchus completed cuts 550 tons a day when going right. Sofar has given some considerable trouble and has not cut to requirements.

----- Completed but undergoing repairs to the apron.

Joplin under construction.

Hercules being dismantled.

Barges 4

Yesterday a 500 ton load according to the boat hands and 375 tons according to the opperating department was brought in and was being discharged at the 2200' wharf. A peculiar condition appears here in that a load that ground and pulverized and placed in the barge to a foot below the top of the tanks begins to ferment and then fills and overflows the tank before the barge can be gotten into the wharf. Also that the mass is fliud, still that it will not flow from one compartment to the other when one of the compartments is being emptied. Now they are expecting to add lime to the ground help while it is on the beds and so commence their process of fermentation sooner than at present in the vats.

In the liming process that takes place in the vats, instead of

hydrated lime chalk s now being used that is gotten back of San Diego. In the vats they have been pleasantly surprised in that the fermentation period only takes four days instead of 14 days as they expected. As a result they have put into comm ission only a fourth of the tanks that were built. After the kelp has passed through the fermentation tanks it is found to still have a considerable part that is not digested and that remains in the original form altho the values are mostly removed. Because of this the e is now being installed a filter process that will let the liquid go on with the mud that is in suspension while the solid kelp mass will be removed. This is simpy a large mechanical screen proe cess. After filtering the liquid is carried to the settling tanks where the mud is allowed to settle out. The liquid is then carried as per my former letter on the Hercu es Plant to the evaporating pans where the liquid is evaporated to about 25-30 Baume'. It is then sent to the hot crystallizing pans where the NaCl and CaCl2 are removed. Then it is put in the cold pans where the KCl is removed. This is according to the general scheme of Cameron. Then the salts are dried in the centrifug gals. At present they are not using the heat exchangers that are in place and that were described formerly. When the plant is in full opperation these will be cut in.

The refuse is dried in two rotary driers and will either be used as a ferti;izer or else burned to a kelp charcoal as this is found to be an excellent substitute for animal charcoal.

They are getting out in the slats calcium acetate and this they are going to change to sodium acetate and get their acetone. The mill for getting the acetone is just being constructed as they did not expect

formerly to do this work here.

To pay expenses the mamagers figure that they must have 1000 tons per day and they need 1500 tons to have a good profit. The plant they believe will handle up to 2000 tons pwr day.

They have asked me to go out aith them at some convenient time on one of their harvesters and see what they believe to be the best machine yet built. They have strong machines but they so far need adjustment to give the service of the Lohman machine.

Yours truly

Transplating Kelp

La Jolla Beds - Condition

La Jolla, California,
June 29, 1916.

Dr. Frederick W. Brown,
Bureau of Soils,
Washington, D. C.

My dear Sir:

Your letter of June 19th is at hand and I am very much surprised to know that you had not received my preliminary letter upon the carrying of kelp plants or spores across the continent. I sent you a digest of the physical conditions as they exist along out coast assuming that they might be of assistance to some of your biologists in arriving at details of the work in which they would probably be more familiar than I am.

As I stated in that letter, I have been watching conditions in the kelp beds, attempting to arrive at some more definite conclusions that I have heretofore. From several plants kept in the aquarium, I believe that young plants can be transplanted directly to the eastern coast if taken over in water of about the same salinity and temperature in the fish car as the water off shore.

Regarding the transplanting by means of the spores I am not yet in a position to give any definite conclusions and do not feel that I can do so for possibly five or six weeks.

We have in mind during what we term our summer session, the gathering of kelp plants and attempting to find out more about their development than we have heretofore. My work at the station is so

Transplanting of Kelp

exacting and has been for months, so exacting that it has been impossible for me to carry on any bit of research work, but I had laid aside the next four weeks for work in the open and for the development of this kelp problem. However, my opinion is that plants with the lower fronds containing the spore bodies can be taken to the east coast. Now, as regards the probability of their growing upon the east coast, concerning this I am in doubt.

I would suggest that the attempts for transplanting be made below Cape Hatteras in order that the temperature of the water might be more constant and also somewhat more similar to the conditions along our coast for the Macrocystis, although we do find Macrocystis north of Point Mendocino, still it is not present, so far as I have studied it, in large quantities. The large beds are found south where the temperatures are materially higher than in the north and where they are materially more constant than in the north and I think that the probabilities of successfully transplanting are in favor of points below Cape Hatteras.

These conditions I thought you would be able to check up from authentic sources because of work that has been done either by your department or by the Bureau of Fisheries in studying the water of the east coast. For instance, I should attempt to select places which would have similar conditions to those between Cedros Island on the south and Point Concepcion on the north as being the most favorable to a successful transplanting of kelp. I do not think that the time required to carry the kelp which is attached to its hold-fasts or the spores which are upon the

fronds would be sufficiently long to interfere with the process of transplanting. The real problem is the problem of the selection of favorable places upon the east coast and the data that I sent you some time previously would give you the facts to work from in making a proper selection.

Yesterday, I was on a trip connected with other business about San Diego Bay and I noted while passing, that the Hercules Powder Company was at work, evidently with all units of their plant, and that the Swift Company was also working. I also saw Mr. Smith, manager of the Swift Company, and he told me that things were going along very nicely. He recently sent his harvester up off of La Jolla where he reports that the beds are not as large as he hoped them to be but they were in excellent condition and were quite heavy at this time. This condition is as I expected it would be, in that the beds now should be coming in heavy again for the next three months. The dying off of the bed is usually May and June so that during July, August and September, we will again have the beds appearing in good shape. Then there will be probably a short period of dormancy, after which the beds will again appear in good shape for about four or five months. Thus the conditions as we have observed them upon the beds theoretically seem to be showing practically in the work as it is being done.

Mr. Naylor and Mr. Portius of the American Products Company (Simon's Hardware Company) of Long Beach, were in to call on me last Saturday morning and they report that the Health Officer at Redondo and the County Health Officer for places north of Redondo have visited them at Long Beach and other points at Long Beach and San Pedro to

ascertain why so much kelp is drifting in and making almost uninhabitable the beaches north o

F.W.B. #4. 6/29/16.

Kelp nuisance on beaches

ascertain why so much kelp is drifting in and making almost uninhabit able the beaches north of Point Vincente. They have started to investigate and from the information gained it seems that somebody has been cutting the kelp and allowing it to drift from the beds which are north of White's Point and south and west of Redondo. The firms that are cutting kelp feel that this is being done with the object of interfering with them and that the kelp is simply being cut ruthlessly and allowed to float away, while they have all been taking pains to see that the kelp is gathered so that there may be no difficulty with the authorities. This matter has been so pressing that one of the members of the State Fish and Game Commission who has charge of this particular phase of the work was requested to come and look over the situation. He did so about a week or ten days ago and I understand, has made a favorable report upon the cutting as seen by him by the various harvesters.

I suggested to Mr. Naylor and Mr. Portius that it would be well for them to put some person with a pair of field glasses over the Point Vincente and see if they could not discover whether anyone was cutting kelp over there merely for the purpose of trying to put them out of business.

I had thought that I would go up the latter part of this week or the fore part of next and look over the conditions about Redondo and that district when I happened to recall that my authorization for performing work for the Bureau ends this evening so that I would have no right to make an investigation until I either

receive due authorization or other word from you. However, it seems to me that it is a point that does need attention because it certainly is not right for those who are cutting kelp to be held responsible for some irresponsible party, or if they are at fault they should be shown how to overcome that fault. All those who are cutting and harvesting at the present time, have been advised repeatedly against losing kelp because of the effect it would have upon the inhabitants along the shore. Now, if they are losing it, it is up to us to find it out, or at least, up to someone and then for us to find how the difficulty may be straightened out. After watching the harvesters work, I am, personally, of the opinion that none of them are losing any considerable amount of kelp at the present time. Of course, you understand, they all lose some but they are not losing it in one hundred ton lots as it is coming ashore.

This afternoon I shall look up the matter of the fish car in San Diego as I had not been apprized of the fact that it was here and I will try to find out what arfangements can be made as regards shipping of kelp east.

Trusting that this is not too indefinite to be intelligible, I am,

Yours sincerely,

La Jolla, California.

July 3, 1916.

Chief, Bureau of Soils,
Washington, D. C.

Dear Sir:

Yesterday I spent in Redondo, San Pedro, Long Beach and Los Angeles, looking up the kelp situation as regards the complaints issued by certain persons living in Redondo as to kelp being washed ashore and becoming a nuisance.

I interviewed Mayor Molnar, Councilman Fanchor, Mr. Loof, Mgr. of the Hippodrome, and B. A. Minor, Mgr. of a large Bath House. These gentlemen stated that during the last two months they have had reason to complain of large quantities of kelp which had washed ashore and which was decaying under their buildings and becoming in a general way, a nuisance. On Saturday night, June 10th, the Hippodrome had to be closed down for the evening because of the stench and on June 30th, a moving picutre concern run by Mr. Fanchor, was forced to close. The reason for closing was that the kelp had come in underneath the pavillion which lines the sea front of Redondo and there commenced to decay.

I, personally, went under the pavillion and found that there was a break in the sea wall along that particular portion which served as an eddy into which the kelp was washed and where it was undergoing decay. The character of the kelp in this particular portion

was that of the wind and wave broken pieces - pieces usually eight or ten inches long, and similar in character to conditions that I have seen adjacent to La Jolla after storm in some of the small indentations along the coast. This breach in the wall served as a sort of eddying point into which the material washed down by the waves and broken up along the large rock break water, is collected. All the material that I saw under here was very evidently ordinary wave action material. Along the beach to the south of the pavillion there were patches of kelp - large bunches of it. These I examined and found but one specimen in which the hold-fast was not present. So far as this kelp is concerned then, it is due to the whole kelp being pulled off by wave action and being brought down from the beds to the south into Redondo.

Now, the complaint made by the following persons, namely, Guy S. Garner, 321 Merchants Trust, Los Angeles, C. H. Burnett, Outside Passenger Agent, Pacific Electric, The Redondo Cafe, Redondo Police Dept., and Mr. Fanchor, City Councilman, was that all the kelp which came in was cut kelp and was the result of the cutting of the Redondo bed by the Kelp Companies of San Pedro and Long Beach. These companies I interviewed and found that the Diamond Match Company had cut on the Redondo bed on June 1st, 93 tons, June 7th, 201 tons, June 24th, 192 tons, June 25th, 188 tons; and this is the only company that has actually cut above Point Vincente. Up around

Chief-Bureau of Soils. #3. 7/3/16.

Portuguese Bend, the American Products Company has done a limited amount of cutting but that is to the southward of Point Vincente. Otherwise, little cutting has been done as it is a good way from the plant and most of their work has been about Point Fermin. All the harvesting machines located at San Pedro and Long Beach are after the old Dick Lowman type and cut the kelp into long strands. These strands are then taken aboard and on some harvesters, the material is cut into ten or twelve inch lengths, but not while the material is in the water, so that any which is lost would be of probably long lengths or a portion might be the kelp which is cut up by the propeller wheels as the harvesters are being forced through the beds. However, this should be a minimum as the propellers are working in the stern usually and the cut kelp is taken out from the front barges so that there should be very little of the free small pieces let loose in the beds.

Therefore, I should say from the study of conditions as I saw them about Redondo that the kelp companies are not, at least entirely responsible, and in fact, probably not at all responsible, for any nuisance which has occurred there. My personal experience with Redondo, and other beaches in that neighborhood has been that kelp has come in there regularly in other years but this year seems to be a little heavier than usual. Even this, I doubt to some extent as I found upon asking several water front characters that

heretofore it had been customary for the Pacific Electric Company to have their section hands bury the kelp but that this year they didn't do so. They started but suddenly discontinued. Now, this will account for the apparent increased amount of kelp which is appearing under the pavillion. From the amount of kelp which was on the coast and which I could see in the breakers as evidently being torn roots and hold-fasts, the amount was in no wise unusual. The matter, seems to me, to be one in which the citizens of Redondo are simply trying to slip over an expense upon the Kelp Companies through the supervisors of Los Angeles County which does not rightfully belong to the Kelp Companies. The Kelp Companies have met and had an organization and are willing, if it is shown that they are responsible, to see that the beach is kept clean, but as they are all working off the small bed they are all very anxious that none of this material shall be lost and they are the last ones who would want this material to get away from the beds. Also, they are very anxious to keep the good will of the people along the coast even though they may possibly be unjustly accused of fraying kelp and letting it go ashore.

At the present time, the Health Officer, Dr. R. G. Pomeroy, is permitting the Kelp Companies, through the supervisors to continue operations, although he sent a letter on June 24th, requesting them

not to work until the next meeting of the board of supervisors, which occurs on the 12th of July. Howevèr, he was finally persuaded to permit the operation to go on for the present. So that the question at the present time is rather a serious one and will have to be threshed out thoroughly before the board of supervisors of Los Angeles County.

If it is possible for you to send a communication to the Los Angeles County Board of Supervisors and to the Wilmington Chamber of Commerce immediately, it might have considerable bearing on the outcome of this unfortunate situation. I have been requested to meet with the Board of Supervisors but without direct authorization from you for such an act, I shall not do so.

Sincerely yours,

July 3, 1916.

The Wilmington Chamber of Commerce,
Wilmington, California.

Dear Sirs:

Upon request I have been to Redondo, San Pedro, Wilmington and Long Beach looking into the conditions of the reported kelp nuisance at Redondo. The conclusions I gained have been sent by me this morning to the Chief of the Bureau of Soils, Washington D. C. Without the authorization from him it would be impossible for me to go into detail to you, concerning my conclusions, but there are certain general facts that were included in that report that I will give you so that you may have them for consideration in the matter if it should come up before the Board of Supervisors of Los Angeles County.

The kelp which I found in Redondo was of two types, that north of the pavillion and bath house being composed of, in all but one case, entire plants - these entire plants having the hold-fasts attached to them. This condition we always find present whenever there has been considerable storm action and the plants are wrenched off and then come ashore in considerable quantities. Attendant upon this condition, we always also find that the fronds, or commonly called leaves and bulbs, are whipped off in the surf line or along the short and usually collect a little farther along. This condition I also found prevalent in Redondo beneath the bath house.

That this was a wave action was quite evident from the fact that there is as much eel grass and rock weed as there is kelp and this mixture is brought about usually by the movement back and forth on a coast line by wave action of various kinds of materials. In other words, there was not a pure stand of kelp or any other one type of material found beneath the pavillion. This state of conditions as I found them is a normal one and at Redondo, such that decay would take place underneath the pavillion in the natural course of events.

From interviewing certain water front characters I found that in previous years the Pacific Electric Company had been in the habit of having their section hands bury a considerable quantity of kelp which came ashore but this year they did so for a short time and then stopped. This would account to some degree possibly for the increased quantity of small fractured kelp that is found underneath the pavillion in Redondo at the present time.

The condition which I found there is similar to the condition I reported to the Chief of the Bureau of Soils at La Jolla, about two years ago. At that time I found several thousand tons of kelp thrown up on the beach after a storm and to the north in the little indentations along the coast line were thrown up banks of fractured kelp fronds and as I recall now one indentation was practically filled with just bulbs. So the condition is not an unusual one.

In regard to the cutting of the kelp by the Kelp Companies at San Pedro, Wilmington and Long Beach, will state that their cutters or harvesters cut it at a depth of about four feet and the material is cut in long strands. These strands are taken up over a draper and then either deposited immediately in barges or passed through a cutting machine and then into the barges, but the material as cut is all conserved as it is done inboard and the opportunity for loss of uncut material would be in the strands and I found no evidence of strands along the coast line.

I also recall statements concerning the times when Kelp Companies had been cutting kelp in the above named district and found that there have been four days since the first of June when the harvestershas been in that region from any Kelp Companies; and according to the statements from certain gentlemen at Redondo, the condition has been prevalent for about three months. I should judge, therefore, after studying the character of the nuisance at Redondo and the harvesting apparatus of the companies that the harvesting companies are not materially responsible for conditions as they are at Redondo.

This is as much of a statement as I feel I can make without authorization from the Bureau of Soils and I have asked them to send communication concerning my deductions to the Board of Supervisors and to yourselves and I trust that such communication may reach you before the 12th if they see fit to pass on my conclusions. In this work we are attempting to see that all are receiving fair and impartial consideration.

Sincerely yours,

Collaborator, Bureau of Soils.

THE DIAMOND MATCH CO.
EAST WILMINGTON, CALIF.

July 11, 16.

Captain W. A. Crandall,
Scripts Biological Institute,
La Jolla, Calif.

Dear Captain Crandall:

Am enclosing a copy of an article from the Wooden Willow Ware Trade Review in which one Roman D. Sepulveda makes an attact upon our industry as destroying the fishing industry. Have recently noticed this same article in the Los Angeles papers and numerous other trade journals etc.

Would you kindly let me know your opinion of this question or perhaps refer me to any articles which might have been published by the Bureau of Fisheries or other departments upon this subject.

With best personal regards,

I remain,

Yours very truly,

W. G. Wey.

WGW:M

July 14, 1916.

Mr. W. G. Wey,
East Wilmington, California.

Dear Sir:

Your letter of July 11th is at hand. The inclosure that you sent me is one that involves a situation that I have been acquainted with for some time and that I have answered in various places, particularly with the Federal Engineering Department in Los Angeles.

Permit me to say that this question has been considered by Dr. Evermann of the Academy of Sciences, San Francisco, and Chancellor David Starr Jordan of Stanford University and that their opinions are that the kelp cutting will not have any effect upon the fishing industry in so far as it apertains to the spawning. This you will find recorded in Senate Document 190.

Yours sincerely,

Collaborator.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

FWB/EMD

INVESTIGATION OF FERTILIZER RESOURCES.

July eighteen,
1 9 1 6.

Mr. W. C. Crandall,
c/o Scripp's Biological Institution,
La Jolla, Calif.

Dear Sir:

Replying to your letter of July 3rd with special reference to the quantities of kelp washing ashore and decaying on the beach, you are hereby authorized to appear before the Board of Supervisors of Los Angeles County to give them the benefit of your experience with kelp operations and such information that you may have gathered first hand with regard to present conditions.

From your letter to us we gather that, in your judgment, there is ~~rather~~ an effort on the part of the owners of the beach front to compel the kelp operators to remove from the beach pieces of kelp for which their operations are not responsible. If this is the case, of course, every effort should be made to present to the Board of Supervisors the actual facts; since the kelp industry should not be saddled with the necessity of keeping the beaches cleared unless their operations are to be blamed for the presence of kelp on the beach.

We are in receipt of a letter from Swift & Company, in which they state that the kelp beds of Point Loma and La Jolla will apparently soon be exhausted, and asking us for any information on the effects of cutting kelp. We are replying that such information as we have indi-

July eighteen,
1916.

cates that kelp on the south beds probably renews itself within a few months after cutting, and are furthermore informing them that you as our representative have been in charge of the investigations on this subject. You will, of course, give Swift's representative there any information on the subject which you may have, upon application.

Very truly yours,

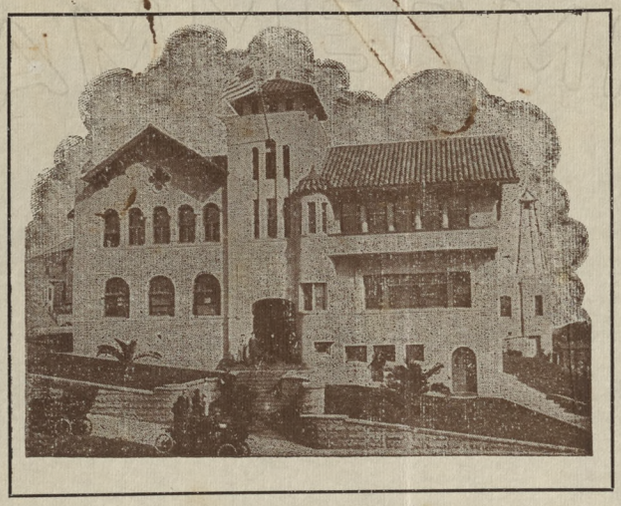
Frederick O. Brown.

In Charge.

cases that kelp on the south beds probably removes itself within a few months after cutting, and are furthermore informing them that you as our representative have been in charge of the investigations on this subject. You will, of course, give Swift's representative there any information on the subject which you may have, upon application.

Very truly yours,

In Charge.



ELI E. MOSIER, Marshal — MRS. MAY B. HOPKINS, Treasurer — RALPH O. HANSON, Engineer — M. A. BREEDEN, Recorder

D. R. HANCOCK, Health Officer — FRANK L. PERRY, Attorney — GEO. W. REED, Street Supt.

City of Redondo Beach

CHARLES C. MANGOLD, City Clerk

Board of Trustees

LOUIS MOLNAR, President
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Redondo Beach, Cal., July 19/16.

Re kelp conditions at Redondo Beach.

Wesley Clarence Crandall,
La Jolla, Cal.

Dear Sir:-

Following your visit to this Beach some two weeks ago, the undersigned asked of the captain of the Life Guards to keep a check on days when the Kelp Cutters were at work off the point South of this place. Also that he keep similar check on kelp conditions on the beach. Following is report as by him turned in --

"July 1st, Lots of kelp on beach - also some came in last night."

"July 2d, No more kelp came in today or last night. No cutters can be seen."

"July 3d, City men clean beach today. No kelp or cutters seen today. No kelp in ocean."

"July 4th, No kelp today or kelp cutters seen."

"July 5th, Some kelp came in, can not see poin." (heavy fog)

"July 6th, Lots of kelp came in in afternoon. Kelp cutters on point."

"July 7th, More kelp came in, Cutters on point."

"July 8th, Kelp came in last night. No cutters seen today."

"July 9th, Not much kelp came in today. No cutters can be seen on this side of Point."

"July 10th, Cutters at work in the morning, lots of kelp came in afternoon.

"July 11th, Cutters at work on Point. Piles of kelp came in and more scattered out in ocean. Beach is loaded with it."

"July 12th, Cutters at work at Pt. in morning. Lots more kelp came in piles on Beach."

"July 13th, 2 or 3 cutters on Point in morning, lots of kelp came in, Ocean full of it."

"July 14th, No cutters seen today. Not so much kelp."

"July 15th, Cutters on Point. Some kelp came in today."

"July 16th, No cutters seen. No kelp today."

"July 17th, A little fine kelp came in last night. Cutters can be seen at Point. Piles of kelp in Ocean in afternoon and on Beach."

"July 18th, No kelp came in last night. Kelp cutters at work on Point today. Lots of kelp all along Beach."

"July 19th, A little more kelp came in last night. Fog to heavy in morning to see if the Kelp cutters are working. Kelp cutters can be seen in afternoon."

I have given this report in his own words and trust you may be able to find in same some help in abaiting this nuisance.

If there is any further assistance I can render I am yours to command.

Most sincerely yours,

F. R. Faucher

PLANT AND LABORATORY
LONG BEACH HARBOR
~~OFFICE AT PLANT~~

TELEPHONE CONNECTION

Pacific Products Company

OF CALIFORNIA
INCORPORATED

MANUFACTURERS OF
"Paprora Brand"
DRIED AND GROUND KELP

Los Angeles
~~LONG BEACH~~, CAL., July 25, 1916.
514 Exchange Bldg.

Capt. W. C. Crandall

c/o Scripps Institution

La Jolla, Calif.

Dear Captain Crandall:

Where have you been keeping yourself these past two years. When you used to come to Los Angeles you always favored me with a call; why not keep the good work up.

I am into the kelp game good and strong now having acquired the controlling interest in the Pacific Products Company of California. We started up a few days ago harvesting and are now working up the kelp. I find, however, that if we don't lookout in this locality we are going to wake up some fine morning and find a short-age of kelp. I am wondering if the same condition exists down at San Diego. What are the plants do ing down there?

The next time you are in Los Angeles I wish you would drop in and have lunch with me. If you would be interested I would be glad to show you what I think is a dandy harvesting outfit.

Sincerely yours

Geo. H. Ennis.

GHE/D

VERSO

July 26, 1916.

Mr. Geo. H. Ennis,
514 Exchange Bldg.,
Los Angeles, Calif.

My dear Mr. Ennis:

Possibly I have not been as quiet during the last two years as you may have thought, as I have been to the Pacific Products Company plant several times, in fact, three times within the last two months but unfortunately was never able to find anyone at home as my visits have usually been on Sunday afternoon.

I have, hpwever, seen what you are up to and have been aboard your Paprocc harvester and believe that you will have a successful harvester in it.

I have been particularly active in the problem which you suggest in your letter, namely, that you are apt to be without kelp and with the kelp factory on your hands. At the present time I am starting a study here to see the effect around San Diego where the same conditions seem to prevail as about San Pedro and Long Beach. The only answer I can make is that our guess as to the growth twice a year must come true in order to fulfil all the conditions which we believed the kelp product would fulfil when we were making our preliminary investigations in 1911-1912.

I still feel that the kelp will be up and if those cutting will stay off the beds during its period of increase that there will be no ultimate difficulty.

I shall certainly be pleased to avail myself of your invitation to drop in and have lunch with you the next time I am in Los Angeles. Usually, however, my trips are to the beaches rather than to Los Angeles nowadays.

Yours sincerely,

V. INHERITANCE OF ACQUIRED CHARACTERS.

B. Anti-Lamarckian Evidence.

Redondo-

La Jolla, California,

August 4, 1916.

The Chief of
The Bureau of Soils,
Washington, D. C.

Dear Sir:

Your letter of July 18th concerning the condition of affairs at or near Redondo is at hand.

Representation was made to the Board of Supervisors concerning the condition at Redondo and the matter was laid on the table for the time being. Since that time I have been in Redondo and talked with the Trustees of the city and they are considering the matter of putting in an incinerator for their own purposes.

Locally I may say that the prospect for a heavy yield which I have anticipated and which has been given in all of our reports seems to be failing due to two causes. One being that in actual operation of the kelp harvesters, at least 50% of the kelp harvested is lost. This condition I have traced from Point Loma to La Jolla during the time that Swift & Co. and the Hercules Powder Co. had been cutting on the La Jolla beds. Acreas of material have floated off, much of it going toward the Mexican Coast and large quantities of it having gone ashore at what is called Ocean Front, Pacific Beach. Then the actual cutting yield does not appear to be as great as I had figured as apparently, they have cut off the beds rather closely.

Yesterday, I had anticipated looking over the beds rather thoroughly, but unfortunately my boat broke down and I had to limp

Yours

back to port before an examination had taken place. However, I am keeping tab on the manner in which the kelp is growing and although an immediate report is not possible, still as conditions show up on the beds I will be able to make partial reports.

Yesterday there seemed to be on the outer edge of the Point Loma bed a quantity of kelp already grown to the surface in an area where it had all been cut away within two months.

Yours sincerely,

Collaborator.

HER. 355

ALL QUOTATIONS SUBJECT TO CHANGE WITHOUT NOTICE

CABLE ADDRESS "HERPOCO"

HERCULES POWDER CO.

CHICAGO, ILL.
DENVER, COL.
HAZLETON, PA.
PITTSBURG, KAN.
JOPLIN, MO.
NEW YORK, N.Y.
PITTSBURGH, PA.
SALT LAKE CITY, UTAH.
SAN FRANCISCO, CAL.
ST. LOUIS, MO.
WILMINGTON, DEL.
MEMPHIS, TENN.

MANUFACTURERS OF EXPLOSIVES

DYNAMITE
GELATIN DYNAMITE
BLASTING GELATIN
PERMISSIBLE POWDERS
BLASTING SUPPLIES
BLASTING POWDER
BLACK SPORTING POWDERS
SMOKELESS SHOTGUN POWDERS
SMOKELESS RIFLE POWDERS

San Diego, Calif.
August 9, 1916.

Mr. W. C. Crandall,
% Biological Station,
La Jolla, California.

My dear Mr. Crandall:-

You will recall that when you visited our plant some time ago, we discussed the matter of cutting away entirely some particular bed of kelp in order that careful observations might be made of the new growth of kelp. You suggested the bed opposite Imperial Beach, and during the last several days one or two of our harvesters have been operating in this field, and Captain Morris now reports that there is practically no kelp remaining, at least not sufficient to justify further cutting in that bed.

I am acquainting you with this in order that you may make observations, if you desire, as to the condition of the bed as it is now, and the later evidences of the new growth of the kelp to replace that which has been cut away.

If at any time you should desire any other information in regard to the cutting of the kelp beds, we would be very glad to acquaint you with anything that we are doing.

Yours very truly,

GHM:D

SAFETY FIRST—USE PERMISSIBLE EXPLOSIVES THAT DO NOT REQUIRE THAWING
AWARDED THE GRAND PRIZE FOR SMOKELESS SHOTGUN POWDERS AND THE MEDAL OF HONOR FOR HIGH EXPLOSIVES PANAMA-PACIFIC EXPOSITION.

La Jolla, California,

August 12, 1916.

The Hercules Powder Company,
San Diego, California.

Dear Sirs:

Your letter of August 9th, 1916 is at hand. I am very pleased to know concerning the condition that you have reported off Imperial Beach and shall watch with interest the bed that you have spoken of.

I anticipate now being abbe to turn my attention very considerably to the kelp work for some months and any information that you can get or give me concerning quantities cut from given beds or areas and the observations concerning growth will be gladly received. Also, I would naturally be glad to reciprocate and inform you of any conclusions that I make concerning the growth in quantities.

The one thing that has struck me very forcibly during the last month and a half is the loss of kelp while cutting. So much kelp has come ashore near Ocean Beach and I have seen so much of it floating free out beyond the beds that I feel that a very considerable quantity of the cut kelp is being lost. This is having a two-fold bad effect; one that the people along the shore are objecting to the large quantities which drift in and this has amounted in many cases to hundreds of tons, and secondly, that you are not getting anywhere near the yield that you ought to be getting off the individual beds. For your own protection, constant ways and means ought to be considered for preventing the loss.

Considerable attention will probably be given to this matter in this year's legislature and the less objections we may have from private sources will make the ultimate control of the problem more equable and fair to you as to others who may be inconveniences at the present time. I really feel that this is one of the important problems and this particular phase is one which I have been studying at Redondo and have been watching rather closely locally at Ocean Beach and Ocean Front, Pacific Beach.

Thanking you for your kindness in remembering my request, I am,

Sincerely yours,

ALL QUOTATIONS SUBJECT TO CHANGE WITHOUT NOTICE

CABLE ADDRESS "HERPOCO"

HERCULES POWDER CO.

CHICAGO, ILL.
DENVER, COL.
HAZLETON, PA.
PITTSBURG, KAN.
JOPLIN, MO.
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SALT LAKE CITY, UTAH.
SAN FRANCISCO, CAL.
ST. LOUIS, MO.
WILMINGTON, DEL.
MEMPHIS, TENN.

MANUFACTURERS OF EXPLOSIVES

DYNAMITE
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BLASTING SUPPLIES
BLASTING POWDER
BLACK SPORTING POWDERS
SMOKELESS SHOTGUN POWDERS
SMOKELESS RIFLE POWDERS

Kelp on beaches

San Diego, Calif.
August 15, 1916.

Mr. W. C. Crandall,
% Biological Station,
La Jolla, California.

Dear Sir:-

I am in receipt of your letter of the 12th instant and am glad to note that you anticipate being able to turn a large part of your attention to kelp work for some months to come, and again wish to assure you that we will be glad to co-operate in every possible way with you in gathering useful information regarding the kelp beds from every point of view.

Regarding the matter of kelp lost while cutting. I would call your attention to the fact that in addition to the three harvesters operated by this company, and the one operated by Swift and Company, all of which must necessarily lose the loose ends of the kelp plant when cutting other than directly in line with the plant, the innumerable fishing boats that pass through the kelp beds going in and out are, we believe, tearing up a tremendous quantity of kelp with their propellor wheels.

There is of course a large quantity of kelp on the beaches in this vicinity, but I understand that there is kelp on the beaches all along the coast where no kelp harvesters have ever operated, and I have been wondering whether any close observations have been made by you in an endeavor to compare the beach kelp here with the beaches further up the coast.

SAFETY FIRST—USE PERMISSIBLE EXPLOSIVES THAT DO NOT REQUIRE THAWING
AWARDED THE GRAND PRIZE FOR SMOKELESS SHOTGUN POWDERS AND THE MEDAL OF HONOR FOR HIGH EXPLOSIVES PANAMA-PACIFIC EXPOSITION.

In this connection I would also like to impress upon you the very misleading nature of kelp when you endeavor to gauge a quantity with the eye. It has been our experience that it takes an apparently tremendous quantity of uncut kelp to produce a ton of crushed kelp, the latter of course packing much more closely than the raw material, and from my own observations I think it is quite questionable whether as much as a hundred tons of kelp will be found on any one mile of beach front within several miles of San Diego.

We are bending all of our efforts in the operation of our harvesters to the end that we may secure the greatest amount of kelp with the smallest possible loss, and I am merely mentioning the foregoing to assist you in your observations and in so far as we find that we are actually losing kelp from our harvesters, we will continue our efforts to reduce such losses.

Again assuring you of our constant wish to co-operate with the department, and with yourself, in every respect, I beg to remain,

Yours very truly,

Geo H Merriam

Treasurer.

GHM:D

Form 1204

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT
GEORGE W. E. ATKINS, VICE-PRESIDENT BELVIDERE BROOKS, VICE-PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT

15By Ca 23 Govt

A Washington DC 1157am Aug 17 1916

Capt. W C Crandall

Scripps Biological Inst. LaJolla Cal

Swift and Co state Kelp off SanDiego about disappeared please investigate and report.

Whitney.

1010am

Aug.19th 1916.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sir:

Your telegram of the 18th is at hand. Today I took the Alexander Agassiz and went over the beds between here ans Point Loma. I find that the grea or protion of the kelp ahs been cut and at present only the tops of young plants are in sight. There seems to be a great number of these but the older growths are entirely cut over so that only occasional plants are in sight. The beds are so well cut that the companies are now going North and next week they will go over to San Clemente to cut. About San Pedro the beds are now well cut so that the cutting is done above Point Dume

The cut to date on the Point Loma -La Jolla bed has been given me as fo follows:

Swift	5000 tons
Hercules	35000
Others	5000
loss	15000
Uncut	?
	60 000

Per last springs estimate of bed only approximately 3sg.miles left with estimated tonnage of about 250 000 tons.

Estimate apparently 400% high.

Will get similar data this week from northern fields.

Yours truly

Pt. Uccente

Santa Monica, Redondo, Pt. Firmin
Condition of Beds.

Statistics

La Jolla, California,

August 23, 1916.

Chief, Bureau of Soils,
Washington, D. C.

Dear Sir:

Sunday afternoon I drove to Los Angeles and on Monday morning proceeded to drive to Santa Monica where I began observing the coast line for kelp on the southern tour. Off the palisades at Santa Monica there were a few small patches of kelp in sight which were evidently old kelp from the manner in which it lay in the water. These beds were so small however, as not to be worth consideration.

I proceeded then south to El Secondo where I walked over the sand dunes to see the plant of the Potassium Mfg. Co., of which Mr. Armstrong is president with an office at 923 S. Figurio and Mr. C. G. De Planty is at present general manager. I found neither of these gentlemen at the plant, which consists of a high board fence and a partially constructed factory made of boards, approximately 40 x 120 ft. It is located on the far side of the Pacific Electric tracks from the ocean. The young lady in charge of the office told me that they were anticipating building a pier out from the plant and that they expected they would be able to work within two or three months. From my observations of the plant I do not anticipate that they will commence work for a much longer time if at all. Mr. Armstrong I understand went east and raised the money to proceed with the construction of the plant and I believe as I have for some time, that it is a stock jobbing proposition, as the plant is located in the middle practically of Santa Monica Bay and it is necessary for one to either go down below Redondo or up to Point Dume and at the present time, they are cutting both of these beds. From the young lady I found that he was misrepresenting conditions to some extent at least, in that he was claiming to have a permit for some particular bed and there are no such permits issued.

From this plant I proceeded to Redondo where I looked over conditions as I wrote you some time ago concerning the kelp coming ashore. I found that the Pacific Electric had buried the kelp which was bothering them and that there was practically no kelp coming in on Monday along the immediate coast. The pot hole under the amusement buildings showed only the old dread kelp with practically no new material with it. At the present the matter seems to be settled.

From this point I went over to San Pedro, thence to Long Beach. During the evening I had a long talk with Mr. Wey, manager of the Diamond Match Co, Wilmington, and took up the matter of their kelp supply with him. He gave me their estimate of cut tons up to and including August 22nd as 10,000 tons; also, he gave me his side of the story as to the kelp cutting, namely, that he had tried to get every one to cut off the beds near Redondo and above Point Fermin but that when the others who are included in an association, namely, the Kelp Harvesters Association (or some such name) jumped their agreement and proceeded to cut down close to Point Fermin, he then did the same, and was at that time cutting about Point Fermin. He claimed naturally that he was gathering all the kelp that he was cutting while others were losing much of their kelp but that he was picking it up. This particular brand of story I got from the Pacific Products Co., The Diamond Match Co., American Products Co. and the Sea-Products Co. Every one in turn telling me that he was being very careful about his cutting and giving careful instructions to his captains but that the other fellows were all being careless and losing a great deal of their cut.

I then saw Mr. Porteus of the American Products Co. and he reported that they had cut 10,720 tons between Dec. 1st. and Aug. 1st, most of it within the last four months; that his plant had under gone a peculiar reorganization. It seems that Mr. Naylor who was the one who interested Mr. Simmons in the American Potash Co. and got Mr. Simmons to take that company over and form the American Products Co., was as indefinite with Mr. Simmons as he has often times been with me and seems to have wittingly or unwittingly been doing many things which he was advised against doing and putting in a good deal of money which now shows to have been wasted. As a result of finding out about these conditions, Mr. Simmons let Mr. Naylor and several other members of the old force out but retained Mr. Porteus and at the present time they have done away with practically all the complicated machinery of the Naylor process and have gone back to the use of the rotary drier. In fact, it seems that Mr. Simmons is now anticipating pulling himself out of the hole by means of the installation of several of these driers and is negotiating, through his manager, Mr. Thompson, with the authorities in Santa Barbara for either a place to put up a plant or permit for cutting the kelp along that particular part of the coast. The amount of money that has been sunk in the plant since Mr. Simmons took it on seems to be about $200000.00 Mr. Simmons has a contract for fertilizer which is large enough to take up not only all the output he is able to get but also the output of the Pacific Products Co and the National Kelp Potash Co., so that at the present time, the American Products Co. is furnishing cutting facility for both the other concerns as well as running its own rotary driers. They have done away with getting potash out as a salt, or rather, getting potassium chlorid.

On Tuesday morning I went down to the Pacific Products Co. where a very excellent plant has been installed which has been runn ing only a short time. Mr. Ennis is president and Mr. Fischer manager. They have cut 700 tons to date. Their plant is interesting in that it is almost entirely mechanical in its action. The kelp is cut by their

harvester, carried by a draper into a barge and this barge is sloped so that when landing at the pier another draper a lap lower catches the material carries ip up by means of a continuous pulley and drops it into a large slope sided bin, very much like the bins in grain elevators. Here it is passed through the grinding machine upon another draper and carried to their rotary drier which is 6 ft. in diameter and 40 ft. long, covered with asbestos, then out to the end of the drier into a grinding machine and dropped down into sacks. The whole process is very efficiently worked out. Mr. Ennis tells me that they have expended to date in the neighborhood of $25,000.00 and that they will install another drier.

I then went over to see the Sea Products Co and get their data, namely, that they have gotten out approximately 16,000 tons from the beds. They are as usual, working full capacity but their subsidiary plant, the Oceanic Engineering Corporation, is not entirely installed as yet. Mr. Schoaf, the manager, has invented an incinerator which makes a perfect char out of the dried kelp.

I then saw the National Kelp Potash Co. and found that they have used possibly 500 tons of kelp. Mr. Openheimer, the president, was not in but I gathered this from the men on the barge. Regarding this particular firm, you will recall that I wrote you that they were up against it financially. Through the work of an agreement with the American Products Co., they have been put on their feet and are now turning out dry kelp.

In the afternoon, Mr. Ennis and I went out over the kelp beds nearly to Redondo. There was a considerable portion of kelp showing in the afternoon and during a stiff northwest breeze. The bed looks really better than I had anticipated seeing it, knowing the amount of cutting that had been going on and the number of companies involved, and after having seen the Point Loma and La Jolla beds last Saturday. Numbers of plants were upon the surface and the young plants were coming up in good shape and the different stools of plants showed a very generous growth of small stipes.

I have advised those of the men I have seen since the trip to stay off from the Point Fermin portion of the bed for about three months and do their cutting at present on the Redondo beds and from the appearance I have little doubt that they will have a goodly amount of kelp on the beds at Point Fermin within that time. I told all of them very plainly that if they persisted in cutting off the growing stipes they must ultimately practically destroy the bed, at least for their purposes. The total catch shows 38,000 tons of material harvested and this has been done at an average depth of about three feet. Taking our estimate for the 2.5 square mile of kelp beds around Point Fermin and Point Vincente shows that 40% of the kelp estimated has been cut within the last six months to a depth of 3 feet and that there is a considerable quantity of kelp left on the beds and they all finally admit that theye has been a considerable quantity lost during cutting, so that this bed seems to hold out so far as the first cutting is concerned, very close to our first estimate. Ostensively they are cutting to a depth of

six feet but the captains admitted that probably they would not aver age over three feet, in which case they are not gathering through the heavier portion of the stipes and must be losing practically one-half of the weight which we had figured, so that so far as this bed is concerned, I feel that our estimate was as accurate as it would be possible to make.

While on the trip yesterday afternoon I saw any amount of material which I pointed out to Mr. Ennis as apparently having been cut and cast adrift by some harvester. One thing was apparent, however,-that is that the lighter barges and harvesters of the companies in and about Long Beach and San Pedro are not as hard upon a bed as the heavy harvesters of the Hercules Powder Co. and Swift and Co.

From the various facts observed within the last few days I have made the following conclusions,that the companies upon the various beds have gotten in their present cut, approximately 40% of our estimated cut; second, that there is considerable material upon all of the beds which has not been cut at the present time and this material would have to be added to the amount cut to approximate our estimate; third, that the companies are losing a considerable portion of kelp as drift kelp. According to Mr. Porteus he has one barge which he claims that he fills regularly from the drift kelp from the other harvesters and from his figure it would show that he is collecting 25% of the total cut which they are making around Point Fermin and this is only the inshore set and does not take up the kelp which would float off and drift to sea.Figuring then that he is catching half,we will have to admit that on their own testimony there must be from 25 to 50% of material wasted and I believe,that the same thing is true in connection with the cutting on the beds in and about San Diego. Then there is a fourth factor which none of us have considered up to the present time and which I now believe to be an important one, namely, the mutilation factor. As the harvesters go through the kelp beds they cut their swath but also cut off the growing tips of plants to the side and we know that the stipes with growing tips when cut all begin to die back, thereby losing to the bed not only the cut material taken upon the drapers but also the stipes to the side from which the tips have been cut. Then a certain portion of the kelp with tips up toward the surface is run over by the heavy barges and undoubtedly mutilated somewhat. Also, the barges instead of beginning on the edge of a bed and cutting gradually in, go for the thick parts in order to make a quick haul and one that will make a good report in the office and after they have gotten their cut simply work themselves out in any direction mutilating the kelp as they go, causing a very appreciable loss to the bed, so that the swath cut would probably represent not more than 1/3 or 1/4 of the possible total mutilation. Now I do not say that this is the probable mutilation but that it is the possible mutilation. This factor of mutilation is one of the things which I have asked all of the kelp companies to assist me in observing. This theory which I advance seems now to be borne out to some extent at least by the superficial observations made by the various captains.

The latter part of the week or the fore part of next

week I anticipate taking another trip over the La Jolla - San Diego beds and study further the cut kelp there. The Hercules Powder Co. and Swift Co. expect to do their future cutting over and about San Clemente. I might say in this connection that Hercules Powder Co. has all the other companies scared because of the fact that they simply are going after kelp anywhere they can get it and any way they can get it and every company which I talked with was rather pessimistic about the actions of the Hercules Powder Co.

Trusting that this will give you a good idea of the kelp situation and possibilities at the present time, I am,

Yours sincerely,

Collaborator.

THE LORNED MANUFACTURING COMPANY
INCORPORATED

MAKERS OF

POTASH AND FERTILIZERS

G. W. SIMMONS, PRESIDENT
I. NAYLOR, VICE-PRESIDENT
H. B. RUGGLES, VICE-PRESIDENT
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER
L. H. THOMPSON, SECRETARY

1724 WHITEHALL BUILDING
NEW YORK CITY
910 SPRUCE STREET
ST. LOUIS
FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.,
Aug. 23, 1916.

Mr. W. C. Crandall,
La Jolla, California.

Dear Mr. Crandall:

I am sorry to have missed you when you were here Monday and Tuesday. There are several matters I want to discuss with you, chiefly the question of the kelp control and conservation. I have to go to San Diego on business the end of this week, and I am planning to stop at La Jolla on my way back and see you. Will you be there next Monday and Tuesday, and will either one of those days be a convenient time for me to see you?

With kind personal regards.

Very truly yours,

L. H. Thompson

LHT*ELB

THE LORNED MANUFACTURING COMPANY
INCORPORATED

MAKERS OF

POTASH AND FERTILIZERS

G. W. SIMMONS, PRESIDENT
I. NAYLOR, VICE-PRESIDENT
H. B. RUGGLES, VICE-PRESIDENT
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER
L. H. THOMPSON, SECRETARY

1724 WHITEHALL BUILDING
NEW YORK CITY

910 SPRUCE STREET
ST. LOUIS

FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.,
Aug. 31, 1916.

Mr. W. C. Crandall,
La Jolla, Calif.

Dear Mr. Crandall:

I was very sorry to miss you on my call at La Jolla Tuesday. I expect, however, to be down that way before very long again, and will try to arrange ahead of time to let you know so we can connect.

Dr. Turrentine is here now and will probably be here several days. If you are thinking of coming up to Long Beach in the next week, I hope you can arrange to get it into the next few days so you can see him here. The next time you come up, please let me know. I am living at the Virginia Hotel, and will be very glad to see you at any time you are here.

Very truly yours,

L H Thompson

LHT*B

THE LORNED MANUFACTURING COMPANY
INCORPORATED

MAKERS OF

POTASH AND FERTILIZERS

G. W. SIMMONS, PRESIDENT
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1724 WHITEHALL BUILDING
NEW YORK CITY
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ST. LOUIS
FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.,
Aug. 31, 1916.

Mr. W. C. Crandall,
La Jolla, California.

Dear Mr. Crandall:

Since writing the enclosed, I have talked to Dr. Turrentine in regard to the legislation for the control and conservation of the kelp supply which is becoming a more and more apparent necessity each month.

Dr. Turrentine expressed his willingness to go to San Francisco with me and discuss the matter with the Fish & Game Commission, which commission is now preparing or considering the preparation of a bill to present to the next session of the legislature. This trip will be some time within the next five or six days, and we both are very anxious to have you go with us. You know more about the kelp situation in California than anybody else, I think, and your judgment in the matter, as well as your influence, will be of great assistance in this legislation which will be of a far reaching nature and effect.

Can't you arrange to go with us?

Very truly yours,

L. H. Thompson

LHT*EB

Sept. 5, 1916.

Mr. L. H. Thompson,
Long Beach, Calif.

My dear Mr. Thompson:

Your letters of August 31st are at hand. I am interested particularly in your second one and wish that I might be able to arrange to go with you at this time to see the Fish & Game Commission but this is about a month earlier than I had anticipated being in the north. During October I expect to see various men throughout the state as regards our station business and at that time I had expected to have a conference with the Fish & Game Commission.

I have already seen two members of the commission and we have gone over in a preliminary way some of the things that I think ought to be done and I think that I will be of more value at a later date after I have studied still more carefully the results of our local cutting than I am today and I do not see that the Fish & Game Commission can do anything to alleviate the present unfortunate comdition of practically ruining the beds.

This letter you may, naturally, show to Dr. Turrentine and I will not send him an additional copy.

I think it would be a very wise proposition for the three of us to get together before you take a trip to the north, otherwise we may be working at more or less cross purposes. Unfortunately for myself I accepted a position on the jury of awards for the local exposition and until the 15th I am tied up good and tight but if you and Turrentine could have twenty-four hours off you might drive down some afternoon and talk things over that night and you could be back in a comparatively short time to Long Beach. Four hours driving each way will be all you need allow if you have a good car and no bad luck.

At least let me know what your final plans are regarding the northern trip before you go.

Yours sincerely,

Business Mgr.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

FWB-CES

INVESTIGATION OF FERTILIZER RESOURCES.

September seven,
1 9 1 6.

Capt. W. C. Crandall,

La Jolla, California.

Dear Sir:

Your very interesting letter of August 23 has been received. You have no doubt before this seen Dr. Turrentine and had an opportunity to discuss with him the situation as it exists on the Coast. I should like to have you keep in as close touch as possible with the situation on the kelp beds where the extensive cutting has been going on. Accurate data on the length of time necessary for the renewal of a bed after cutting are very important at present. It would seem as though some arrangement will have to be made with the state or county authorities by which exclusive rights to particular beds may be granted to individual concerns; also it seems likely that some effective policeing of the beds may be necessary with a view to proper conservation.

Very truly yours,

Frederick V. Brown.

In Charge.

THE LORNED MANUFACTURING COMPANY
INCORPORATED

MAKERS OF

POTASH AND FERTILIZERS

G. W. SIMMONS, PRESIDENT
I. NAYLOR, VICE-PRESIDENT
H. B. RUGGLES, VICE-PRESIDENT
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1724 WHITEHALL BUILDING
NEW YORK CITY
910 SPRUCE STREET
ST. LOUIS
FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.,
Sept. 14, 1916.

Dr. W. C. Crandall,
La Jolla, California.

Dear Dr. Crandall:

I have your favor of the 5th instant, which I showed to Dr. Turrentine.

I am sorry I could not get away to talk to you and Dr. Turrentine in San Diego, but I am very much tied down here just now. Dr. Turrentine left here Monday, and will see you this week if he hasn't already done so. I hope you will discuss together as thoroughly as you can the question of proper legislative measures to control and conserve the kelp while at the same time encouraging the kelp products industries. Then when Dr. Turrentine comes back here, I will go over with him all that you and he have discussed together; and if it will be of any advantage to see the members of the Fish & Game Commission with him, I will go with him to San Francisco. There is a great deal to be done along this line, and we must not work at cross purposes.

Our little Pacific Kelp Manufacturers Association here is very much in earnest about this legislation, and we stand ready to do anything we can to work it out constructively.

I will appreciate it if you will keep me advised of any new developments or items along this line, and I will do the same with you.

Very truly yours,

L. H. Thompson

LHT*B

Sept.14th 1916

Chief,Bureau of Soils,

Washington D.C.

Dear Sir:

I am enclosing an expense account that has bee-n incurred since the 1st of July in accordance with the letter received from Mr.A.G.Rice dated June 23rd. As no "Authorization Letter" has been received since that time, I have assumed that the old authorization was in force until a new one is issued.

Yours truly,

Collaborator.

Sept. 22, 1916.

Mr. J. W. Turrentine,
Hotel Alexandria,
Los Angeles, California.

My dear Mr. Turrentine:

This is to confirm our arrangement to meet at the Hotel Clark, Monday at 11 A. M. Both Mr. Evermann and Mr. Scofield will be present at that time.

Yours sincerely,

MINUTES OF MEETING ON

KELP LEGISLATION

Sept. 25th., 1916.

A meeting of those interested in the Kelp Industries was called at the instigation og Dr.J.W.Turrentine, of the Bureau of Soils, U.S.Department of Agriculture, to meet at 2:30 P.M., Monday, September -25th., 1916, at Hotel Clarke, Los Angeles;

Those present were

DR.J.W.TURRENTINE,	---	of the Bureau of Soils,
MR.GEORGE H.ENNIS,	---	of the Pacific Products Co.
MR.M.N.WEY,	---	of the Diamond Match Co.
DR. S.R.OPPENHEIMER	---	of the National Kelp Co.
MR.LESLIE T. THOMPSON	---	of the Larned Mfg.Co.
MR.G.H.MARKELL	---	of the Hercules Powder Co.
MR.C.D.CROUCH	---	of the National Kelp Co.
MR. HARRY WATSON	---	of Swift and Co.
MR.Z.C.McELDOWNEY	---	of the Southern Production Co.
MR.W.E.PRIVETT, and MR.HOWARD W. JUDSON,	---	of the Sea Products Co.
MR.N.B.SCOFIELD,	---	of the State Fish & Game Commission
MR.I.N.NAYLOR	---	of Long Beach
DR. WM.E.RUTTER, MR.W.C.CRANDALL MR.E.L.MICHAEL	---	of the Scripps Institution for Biological Research of the University of California.

After explaining that the purpose of the meeting was that of getting together in order to recommend certain legislation relative to kelp harvesting, and the protection of the Industries, it was moved by Mr.Thompson, seconded by Mr.Markell, and carried, that Mr.Turrentine act as Chairman of the meeting, and that he appoint his own secretary. Mr. Michael was so appointed.

The Chairman then read certain tentative laws and recommendations, suggested by D.F.Houston, secretary of the U.S.Department of Agriculture; which after discussion and some alteration were adopted as follows:

(1) "Assertion by the State of ownership of all kelp beds along the Coast below the line of high tide and for a distance of one marine league or three geographical miles out to sea from low water mark."

(Moved by Mr.Crouch, seconded by Dr. Oppenheimer, and carried, that this be adopted.)

(2) "Prohibition against the taking of the kelp from any such beds except in accordance with the terms of the law and the rules and regulations authorized to be made."

(Moved by Mr.Markell, seconded by Mr. Privett, and carried, that this be adopted.)

(3) "Designation of the State Fish and Game Commission, to be authorized and required to administer the law, and to make all needful rules and regulations for the purpose of carrying it into effect."

(Moved by Mr.Thompson, seconded by Mr. Judson, and carried, that this be adopted.)

(4) "Vesting authority in this Commission to lease or otherwise apportion kelp beds or parts thereof to responsible persons or corporations for periods not exceeding twenty years, with the power in this Commission to renew the leases or apportionments - for additional periods of not to exceed ten years each, if compatible with public interests".

This caused much comment and discussion, the prevailing opinion being that leases would cause cut throat competition , and instead of promoting and protecting the industries in a healthy manner, would create a monopoly instead. Finally, however, it was moved by Mr.Judson, seconded by Mr.Wey and carried, with one dissenting voice, that #4 be adopted.

Moved by Mr.Markell, seconded by Mr.Judson and carried that, in relation to this provision, it be the sense of the meeting that the expense of the State Fish and Game Commission relating to the kelp industries, be raised by a tax on the Industries not to exceed $1.00 per ton wet ton of kelp harvested.

It was similarly moved by Mr.Markell, seconded by Mr. Judson, and carried that it be the sense of this meeting that, in apportioning the beds, due consideration shall be given to those persons and corporations already engaged in the kelp industry and the extent of their operations, and that reasonable provisions be imposed to insure the utilization of the kelp allotted to them.

Moved by Mr.Thompson, seconded by Mr.Wey, and carried, that the fifth recommendation suggested by Mr.D.F.Houston to the effect that "Direction to the State Engineer upon application of the State Fish and Game Commission to survey and plainly mark the kelp beds by buoys or such other means as the Commission may deem advisable" be omitted.

Moved by Mr.Crouch, seconded by Mr.Ennis, and carried that the 6th recommendation of Mr.Houston's, that "provision authorizing the Secretary of Agriculture of the United States, to select such kelp beds as may be agreed upon with the Commission, for scientific or experimental purposes and to take therefrom without cost to the United States, except the cost of marking the beds, kelp in such quantities as the Secretary may deem necessary for such purposes," be adopted.

Moved by Mr.Privett, seconded by Mr.Ennis, and carried,

that Mr.Houston's 7th recommendation "Penalties for any violation of the provisions of the law or any of the rules and regulations prescribed by the Commission" be adopted.

Moved by Mr.Privett, seconded by Mr.Crouch, and carried, that Mr.Houston's 8th recommendation be adopted as follows: "Power in the Commission upon due notice and having to forfeit and cancel any lease or apportionment for violations of the laws imposed by the enactment, and the regulations of the Commission."

Considerable discussion followed, relative to preventing unnecessary and injurious navigation through the kelp beds. The question as to whether or not the State had any jurisdiction over navigation was raised, leading to the suggestion that the Fish and Game Commission seek the aid of the Federal Government to control trespass in the kelp beds. It was finally moved by Mr.Markell, seconded by Mr.Thompson, and carried, that these ideas somewhat loosely incorporated as in the following resolution, be adopted:

"Resolved that it be the sense of this meeting that, in drafting the laws to be enacted, the Fish and Game Commission be given the power, as far as possible, to protect the kelp beds from injury."

Moved by Mr.Thompson, seconded by Mr.Johnson, and carried that the meeting adjourn subject to call by Mr.Scofield.

_____

Secretary.

AMERICAN BANK NOTE CO. NEW YORK, LITHO.

THE SOUTHERN COTTON OIL COMPANY

EQUITABLE BUILDING,
120 BROADWAY.

SAMUEL T. MORGAN, PRESIDENT.
L. W. HASKELL, VICE-PRESIDENT.
T. S. YOUNG, SECOND VICE-PRESIDENT.
GEO. F. TENNILLE, THIRD VICE-PRESIDENT.
EDW. E. COLES, SECRETARY AND TREASURER.
C. FITZSIMONS, GENERAL MANAGER.
H. H. WITHERS, AUDITOR.

NEW YORK CITY

TECHNICAL DEPARTMENT
DAVID WESSON, MANAGER

October 3, 1916.

Capt. L. J. Crandall, Business Manager,
U. S. Biological Laboratory,
La Jolla, Cal.

Dear Capt. Crandall:

You probably remember my visit of a year ago, and your kindness in furnishing samples of kelp.

I have just heard through apparently very reliable sources that the large kelp plant at San Diego has had to shut down on account of running out of material. I am told that the kelp beds did not begin to furnish as much kelp as was estimated, and it was found that it did not grow anything like as quickly as it could be cut off.

I would be very glad for any information which can be furnished regarding this matter from your station.

Very truly yours,

David Wesson

DW/c

Manager Technical Department.

HOWARD W. JUDSON
PRESIDENT

ROLAND G. SWAFFIELD
VICE-PRESIDENT

W. E. PRIVETT
SECRETARY-TREASURER

Statistics

SEA PRODUCTS COMPANY

(INCORPORATED)

MANUFACTURERS

CHANNEL NO. 2, WEST SEVENTH STREET

DICTATED BY _____ TO _____

LONG BEACH, CAL., 10/12/16.

Mr. W. G. Crandall,
La Jolla, Cal.

Dear Sir:-

Pardon me for the delay in giving you data on the amount of wet kelp we have harvested and reduced. If the information is of any value to you now, will say that the Sea Products Co. and Oceanic Sugar Corp. to date have harvested and reduced in round figures 19,000 tons of wet kelp.

The Oceanic plant is running full blast and we have shut down the old plant for a much needed overhauling. Operation of the old plant will be resumed in ten days or less.

The Long Beach city authorities have put the ban on burning dried kelp out-doors except between eleven P.M. and

HOWARD W. JUDSON
PRESIDENT

ROLAND G. SWAFFIELD
VICE-PRESIDENT

W. E. PRIVETT
SECRETARY-TREASURER

SEA PRODUCTS COMPANY
(INCORPORATED)
MANUFACTURERS
CHANNEL NO. 2, WEST SEVENTH STREET
LONG BEACH, CAL.,

2

DICTATED BY _____ TO _____

day-light and are now preparing an ordinance prohibiting operation of plants where smoke from reducing kelp is allowed to pass into the air.

I have made plans etc and we are now building a rotary incinerator of cast iron for the Sea Products plant like the one in the Oceanic. I have also furnished plans for a 24" x 24'- cast iron incinerator for the Pacific Products Co. of Cal. We shall burn volatiligzed gases in the dryer furnaces. I find that this can be done very successfully.

Hoping the information regarding wet kelp has not reached you too late,

I remain,

Yours sincerely,

Paul J. Shoaff.

J

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

JWT/MN

INVESTIGATION OF FERTILIZER RESOURCES.

October twelve,
1 9 1 6.

Mr. W. C. Crandall,
Scripp Institute,
La Jolla, California.

Dear Crandall:

In San Francisco I had the pleasure of meeting with Scofield again, in company with Messrs. Westerfeld and Duke. Scheffle I believe has resigned from the Commission. I regret this as I have been informed that he was one of the live fellows of the Commission, was interested in the kelp situation, and would have been of great assistance to us. The matter discussed by us principally was the constitutionality of our proposed legislation. However, the case looked so good from our point of view that Westerfeld agreed to back our proposed bill and let the opposition, if any develops, prove that we have no right under the constitution in the matter.

In Chicago I stopped for several hours and had an interesting time with the Swift people. In St. Louis I had the opportunity of seeing Mr. Simmons again and of giving him some of my impressions.

On the whole I had a good trip of it and feel much encouraged concerning the situation. I am much indebted to you for your kind assistance on numerous occasions and in numerous matters.

With my best to you and Mrs. Crandall, I am,

Yours very sincerely,

J. W. Turrentine,
Scientist.

THE LORNED MANUFACTURING COMPANY
INCORPORATED

MAKERS OF

POTASH AND FERTILIZERS

G. W. SIMMONS, PRESIDENT
I. NAYLOR, VICE-PRESIDENT
H. B. RUGGLES, VICE-PRESIDENT
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER
L. H. THOMPSON, SECRETARY

1724 WHITEHALL BUILDING
NEW YORK CITY
910 SPRUCE STREET
ST. LOUIS
FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.,
Oct. 13, 1916.

Dr. W. C. Crandall,
Scripps Biological Institution,
La Jolla, California.

Dear Dr. Crandall:

I am very much pleased at the overwhelming passage of the Harbor Bond Issue at Long Beach, which assures us of a permanent harbor here and a proper channel. We have had some trouble from complaints from some of the citizens of Long Beach against smoke and smell from the kelp factories to the extent that a City Ordinance has been introduced embodying drastic penalties upon anyone who makes smoke or smell that is "injurious to the health or offensive to the sensibilities of the residents of Long Beach". Practically all of the minority of knockers, who have fought the bond issue, and all other industrial advancement of Long Beach, have the usual number of nostrils, I am advised; and Mr. Simmons and I have been pretty uneasy about the terms of this ordinance. We have explained that this industry is new and that in addition to the very substantial sum that we have already spent in experimental work, we are constantly spending more in our efforts to hit upon the proper process and the proper mechanical devices to not only make potash and other by-products of kelp, but to do it in a way that will avoid all waste or smoke and smell--that this smoke and smell, to which we had been unwillingly treating them, was a very expensive treat on our part because all of the values besides the potash were contained therein, and that it is only reasonable to suppose that we are as anxious to catch those values that are now going to waste as these people can be to have us.

I think this view of it is gradually soaking in and that the danger of our property being confiscated by such legislation is practically eliminated. And we are making plans to add two more big driers which will double our capacity. Our harvesting equipment is about to a satisfactory point now, and we hope before the end of the year to be operating a pretty respectable and creditable plant here.

The ever vital question of the kelp supply and kelp regulation is still to be worked out. I have been very much encouraged since our meeting at Hotel Clarke, and thought that through the co-operation of the Fish & Game Commission and you and Dr. Turrentine of the Federal Government that question would be satisfactorily adjusted. I was advised recently that one Dr. Hector Alliott of the Southwest Museum has been delegated by several Chambers of Commerce, and Governor Johnson and other officials at Sacramento to make an investigation of the

kelp question and make recommendations on which to pass a State ordinance regulating the kelp cutting.

I got wind of this about ten days ago, and immediately I went to see Dr. Alliott, perhaps you know him. His interest in the kelp is from the standpoint of his pet theory that inside of the next two generations, and possibly one, the world will be dependent entirely for its physical existence upon the sea, and somehow he has a vague fear that if the kelp companies are allowed to continue, there wont be any food left in the sea, etc. I did what I could to convince him that most of the manufacturers were reasonable business men, and not pirates, and that we were as anxious as he could possibly be to see reasonable legislation protecting and conserving the kelp supply. We agreed, therefore, to co-operate with each other to this end, and I gave him some of the points that had come up at our meeting, which we hoped to see embodied in a law, all of which met with his approval.

Yesterday morning the "Examiner" published the enclosed article, which you may possibly have seen. I suppose the reporter got it garbled, but the average reader would assume that here was another attack on the kelp cutting pirates, who use piano wires and other musical instruments to destroy this natural source of wealth. If this Dr. Alliott has much standing, he can do some harm along such lines as this, although his intentions are good. I am trying to convince him that less than 1% of the kelp that is cut today is cut with such weapons as he mentions, and that the kelp harvesting is done intelligently and, as far as I know, not more than from four to six feet below the surface. I suggest that my effort to enlighten him and to get him on our side be supplemented by word or influence from you in that direction. He may not be strong, but we may just as well have all these people working with us as against us, because it is of vital importance that this matter be properly legislated into law at this session of the Legislature, because it is bound to come up, and if it should be handled wrong and the wrong kind of a bill go into effect, it would be fatal.

What do you know of Dr. Alliott, and what news have you on this question since I last saw you?

With kindest personal regards,

Very truly yours,

L. H. Thompson

LHT*ELB

K E L P

ITS GROWTH, HARVESTING AND USES

Eighteen months ago, the Chamber of Commerce, actively interested itself in the conservation of sea life. I had the honor of collaborating in this important movement originated by the famous and beloved naturalist, the late Charles Frederick Holder.

The precious assistance, generously lent by the Chamber of Commerce to the subject, insured the ultimate and welcome success of our united efforts.

Since then, I have been asked, on several occasions by various committees of your body, to extend the aid of our laboratories to the solution of the corollated question of Kelp, its relation to conservation of marine life and to potash manufacture.

Sixteen months ago we had so little knowledge of the nature of kelp, and the effects of harvesting, on the life and growth of that marine plant, that the Federal Government, at the last session of Congress, appropriated $175,000 for study and investigation of Kelp.

For marine, botanical, zoological, as well as industrial aspects, the problem seemed for a long time one of great complexity.

Theories, more or less founded on facts, were advanced and proved erroneous, owing to lack of definite knowledge.

Without going into unnecessary and technical details of our experiments, extending over a year, and dealing only with such positive knowledge as we now possess, and the economic phases of the case, I beg to report the following:

Normal Growth

Kelp, in this region, makes its principal growth, yearly, from about July 1st to September 15th. During the summer months the plant reaches the surface of the ocean, spurred by the vital necessity of reaching the light. After the upright stem reaches the surface of the ocean, lateral branches develop to the extent of many feet.

Through the deteriorating effect of the waves buffeting them and the molluscal life which settles on the leaves, the branches are weighed down, broken; they decline and die. They are later cast upon our shores by the tides and storms.

Influence of Harvesting.

Kelp harvesting is so new that we have no laws nor regulations to govern this important infant industry of ours. It has become a dangerous go-as-you-please race, between the kelp pirates, the semi-pirates and the legitimate industrial enterprises.

The practise of "piano wire harvesting" is the most pernicious of all forms of harvesting. A motor boat pays out a strong wire which is attached to another and both boats steam ahead dragging the cutting wire, uprooting and ruthlessly destroying the kelp beds. The harvest is made by men on barges, who pick up the larger branches and the neglected waste floats ashore to decompose on our beaches and send forth in the ozone, the stench of rotting kelp. County supervisors and interested civic bodies have been unable to satisfactorily check this practise. If permitted to continue undisturbed, this method must, in the near future, wipe out the kelp beds, the fish refuges, deprive our shores of certain economic sea food and eventually destroy them as well as the new potash industry.

The Reason Why.

Kelp cutting harvest: lateral growth and main stem; the life of the plant is arrested thereby, and a new growth from the base will only take place the next summer.

If the main stem is left standing, the roots undisturbed and THE LOWER TWO LEAVES AT THE BASE NOT MOLESTED, the plant will be seen to send forth two, four and in some cases more shoots from the parent stem, at the "hold fast" (the part of the plant attached to the floor of the ocean) about June 15 to July 1st.

If the plant is uprooted, the two lower leaves of the main stem broken or removed, the plant dies. Abundant experiments have demonstrated this essential factor of the growth habit of the kelp, which was not known before and is most important of all. It is evident that uprooting must eventually destroy the kelp beds, and the new conditions of the currents, thus created, may in many cases forever prevent the sea forests from re-asserting themselves. The question involved is identical with that of land forest conservation.

Every legislative effort, therefore, must be bent on preventing unnecessary destruction of the kelp.

The Remedy.

If well defined regulations were enacted, by the State Fish and Game Commission, which seems the logical protectors and regulators of the kelp, supported by liberal and just legislation, the kelp could be harvested yearly to the great advantage of industry, the protection of sea life and the benefit of this and many cities on the shores of California.

KELP SHOULD BE CUT AT THE EXTREME DEPTH OF SIX FEET, AND NO MORE. Experience shows that this feature is THE BASIC ONE UPON WHICH ALL RESTS and should be positively enforced. Cutting should be done by reciprocating shears or knives.

Piano wire harvesting should be prohibited.

Kelp areas should be surveyed and divided in two or more sections. Harvesting should be allowed in one section at a time.

The kelp beds after harvesting should be rested for six months to permit regeneration.

Cutting should be allowed only on designated sections, strictly policed by the Commission.

A tax of one dollar on a hundred tons of kelp harvested should be levied and would furnish according to present conditions of the industry from $12,000 to $15,000 a year, to repay necessary supervising by the Commission.

Potash industry may flourish on our shores, if scientifically conducted to extract from the kelp not only potash, but iodine, creosote, carbon, and ammonia.

To insure a profit in competition with the potash mined in various parts of Europe and Africa, the industry must be jealously protected and surrounded with fair laws to assure its existence. It is only in handling immense quantities of Kelp in expensive and vast establishments, by responsible concerns that any profit worthy of inviting capital can possibly be obtained. If we act quickly and wisely, large funds already expended may induce larger investments.

Unless Chambers of Commerce of California take immediate action in framing suitable laws to protect the Kelp and its industries there will soon be no Kelp to legislate for.

Report made to the
Los Angeles Chamber of Commerce by
Dr. Hector Alliot,
of the Southwest Museum,
October 10, 1916.

Legislation
Methods of Cutting Kelp

Long Beach, Calif.,
Oct. 14, 1916.

Dr. Hector Alliott,
Southwest Museum,
Pasadena Ave. & Avenue 45,
Los Angeles, California.

Dear Dr. Alliott:

I noticed in the morning "Examiner" of the 12th an account of your report to the Chamber of Commerce.

I am very much interested in this, and feel sure, as I told you when I saw you last week, that our interests are nearly enough identical to enable us to work together for the protective and conservative legislation that is necessary to insure a continual supply of kelp.

I am sorry that the newspapers in this case, as is the case so often, adopted misleading headlines and garbled some of the incidental information. For instance, there is nothing, I am sure, farther from your mind than threatening "kelp, the baby industry," as the headlines state. Also, the newspaper report states, "The present method of harvesting (kelp) is to attach a wire to two power boats and pull it through the bed. This uproots much of the kelp, etc." As a matter of fact, that is not a fact. Less than one per cent of all kelp harvested from Santa Barbara to the Mexican line is harvested in this way, and it creates unfair and undeserved prejudice against the industry for the newspapers to publish such statements that make people think we are ravaging the natural resources of the sea. As a matter of fact, if we do not conserve the kelp supply, there will not be any supply on which to do business. We are as eager to harvest it economically and properly--to conserve the growth--as any other interests possibly can be. That is why you and I, with entirely different objects in view, can join hands in the common cause of regulatory and conservative legislation, vested in the State rather than in the Counties, so that some department, such as the Fish & Game Commission which is already equipped for such work, can make the necessary, detailed regulations and can patrol and enforce these regulations.

As I have already told you, we have never harvested kelp to a depth as great as six feet. I doubt if our harvesters can cut six feet. Our cutting averages about four feet beneath the surface, and I doubt if any of the harvesters on the coast--

our own two, Diamond Match Company's one, Sea Products Company's two, Pacific Products Company's one, National Kelp Potash Company's one, Swift & Company's one, and Hercules Powder Company's three--over cut more than six feet below the surface of the water.

As you know, the United States Secretary of Agriculture, Dr. Houston, is very much interested in this industry, and, just as you and I are, is anxious to bring about legislation to regulate the harvesting and conservation of the kelp supply so that it will be possible to build up industries for the manufacture of products from kelp. And Congress has appropriated $175,000 for a Government Experimental Plant here on the Southern California coast to not only study the kelp growth and the proper cares of it, but also to experiment with processes and mechanical devices to recover from the kelp not only potash, but the other by-products which so far have been wasted. And it will only be by the recovery of these by-products that there can be built up an industry that will be an American source of potash. This the Federal Government considers a very important item in National Preparedness inasmuch as potash is an absolute essential to American agriculture as well as many other commodities. I have just received some figures which are interesting as indicating how vital the potash supply is to our farm products.

The following figures show the cotton crop in South Atlantic States for 1916 (indicated by Government reports) as compared with a ten year average:

	COTTON YIELD PER ACRE (Pounds, Lint)	
	1916 (Indicated)	10 yr.Av. (Final)
North Carolina	214	243
South Carolina	175	223
Georgia	162	194
Florida	86	123

All of our product is going into fertilizer, as is also all of the product of all of the manufacturers here on the Coast except that of Hercules Powder Company and Diamond Match Company. You see, therefore, what again our interests coincide--you in feeding the people from the sea, and we in feeding the people from the ground.

I am very glad of your interest in this subject of kelp conservation, and I should be very glad to co-operate with you further if you wish it.

Very truly yours,

H. Thompson

P.S. If the Chamber of Commerce has got an erroneous idea of the methods of harvesting of the kelp manufacturers, wont you correct it?

COPY

SOUTHWEST MUSEUM

Legislation

October 18, 1916.

C. H. Thompson, Esq.,
The Lorned Manufacturing Company,
Long Beach, Calif.

My dear Mr. Thompson:

In reply to your letter just received, let me assure you that, while the Los Angeles Times and Los Angeles Examiner had access to my report, it fell, unfortunately, into the hands of youthful reporters.

The whole weight of my argument was on protecting the Kelp but above all, the legitimate industries. You may see a faint reflection of this in the last of the sentence in one of the two papers, in which it is said " to protect the already large investments and induce larger funds being engaged in a defined and well regulated condition of safe operation, etc. etc."

The Chamber of Commerce has been very much interested and is going to act. Meanwhile, I have received a wire from New York and I may call on you for assistance in presenting the kelp industry from our point of view, in a novel way of promoting.

I will probably hear more from New York in a few weeks, meanwhile I hope to secure sane and wholesome legislative regulations that will protect the kelp and insure the industries a safe exercise of their rights, that they may increase and their success rebound to the advantage of Southern California.

With my compliments to Mrs. Thompson, believe me

Yours faithfully,

(Signed) Hector Alliot.

LHT ELB

October 20, 1916.

Mr. N. B. Scofield,
State Fish & Game Commission,
San Francisco, California.

Dear Sir:

Dr. W. C. Crandall of the Scripps Institute, La Jolla, spent the day at Long Beach today, and we have been discussing the proposed State law for the jurisdiction and control of kelp beds.

We have heard of other interests that have become more or less active in this interest of framing legislation for the control of the kelp beds, and we think, with Dr. Crandall, that it is important that the bill which was discussed at the meeting at the Hotel Clarke last month be drafted into a form as soon as possible. Dr. Crandall has suggested that I write you to ask if it would not be possible for you to meet with him and the various manufacturers again in Los Angeles the early part of the week beginning October 29th? Dr. Crandall will be away practically all the coming week, and so if you will be good enough to advise me, care of the Virginia Hotel, Long Beach, just when we could have the next meeting to discuss the provisions of the bill in more definite form, I will see that he and the other manufacturers interested are advised.

Very truly yours,

THE LORNED MANUFACTURING COMPANY
INCORPORATED

MAKERS OF

POTASH AND FERTILIZERS

G. W. SIMMONS, PRESIDENT
I. NAYLOR, VICE-PRESIDENT
H. B. RUGGLES, VICE-PRESIDENT
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER
L. H. THOMPSON, SECRETARY

1724 WHITEHALL BUILDING
NEW YORK CITY

910 SPRUCE STREET
ST. LOUIS

FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.,
Oct. 20, 1916.

Dr. W. C. Crandall,
Scripps Biological Institution,
La Jolla, California.

Dear Dr. Crandall:

I enclose herewith a copy of a letter I have just received from Dr. Hector Alliott from which I judge that the newspaper did garble his report, and that the missionary work I did with him has borne good fruit in the interest of proper legislation for the protection of the kelp and consideration for the legitimate kelp industries.

Very truly yours,

L. H. Thompson

Enclosure

LHT*ELB

THE LORNED MANUFACTURING COMPANY
INCORPORATED

MAKERS OF

POTASH AND FERTILIZERS

G. W. SIMMONS, PRESIDENT
I. NAYLOR, VICE-PRESIDENT
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1724 WHITEHALL BUILDING
NEW YORK CITY

910 SPRUCE STREET
ST. LOUIS

FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.
Oct. 20, 1916.

Dr. W. C. Crandall,
Hotel Schuyler,
Long Beach, Calif.

Dear Dr. Crandall:

I enclose herewith copy of a letter I have just written to Mr. Scofield in accordance with our conversation today.

Very truly yours,

L H Thompson

Enclosure

LHT-ELB

LHT KLB

October 26, 1916.

Hercules Powder Company,
San Diego, California.

Gentlemen:

Dr. Crandall came through here the other day on his way to the mountains for a few days rest. While he was here, he wrote to Mr. Scofield of the State Fish & Game Commission urging him to call another meeting with the Kelp Manufacturers as soon as possible to finish the business which was started at the meeting at the Hotel Clarke, Los Angeles, a month or so ago. He asked Mr. Scofield to wire me the date he could be here for that meeting inasmuch as he, Crandall, would be out of reach of mail and telegrams until next Sunday.

I am just in receipt of the following telegram:

"Arrange kelp meeting morning October thirty-first if agreeable. Fish and Game Commission."

and this letter is to ask you, if possible, to be represented at the meeting next Monday morning, October 31st, at 10 o'clock, at Hotel Clarke. It is my understanding that the Fish & Game Commission representative will bring with him the draft of the bill to be presented to the Legislature for our consideration and discussion.

Very truly yours,

L. H. THOMPSON
PRESIDENT

W. G. WEY
VICE-PRESIDENT

W. E. PRIVETT
SECRETARY-TREASURER

PACIFIC KELP MANUFACTURERS' ASSOCIATION

DICTATED BY LHT TO ELB

LONG BEACH, CAL.,

October 26, 1916.

Dr. W. C. Crandall,
% Mr. J. H. Strait,
Redlands, California.

Dear Dr. Crandall:

I am just in receipt of the following telegram in answer to my letter to Mr. Scofield:

"Arrange kelp meeting morning October thirty-first if agreeable. Fish and Game Commission."

I assume that when you come here Sunday you will wait over for this meeting Monday in Los Angeles, and so I am writing Hercules Powder Company and Swift & Company as per enclosed copies, and I have telephoned all the members of our Association, all of whom I feel sure will be represented.

Inasmuch as we were well taken care of at the Hotel Clarke, I have assumed that that will be the meeting place this time, and have also assumed 10 o'clock in the morning as the hour.

Very truly yours,

L. H. Thompson

Enclosures 2

LHT ELB

October 26, 1916.

Swift & Company,

San Diego, Calif.

Gentlemen:

Dr. Crandall came through here the other day on his way to the mountains for a few days rest. While he was here, he wrote to Mr. Scofield of the State Fish & Game Commission urging him to call another meeting with the Kelp Manufacturers as soon as possible to finish the business which was started at the meeting at the Hotel Clarke, Los Angeles, a month or so ago. He asked Mr. Scofield to wire me the date he could be here for that meeting inasmuch as he, Crandall, would be out of reach of mail and telegrams until next Sunday.

I am just in receipt of the following telegram:

"Arrange kelp meeting morning October thirty-first if agreeable. Fish and Game Commission."

and this letter is to ask you, if possible, to be represented at the meeting next Monday morning, October 31st, at 10 o'clock, at Hotel Clarke. It is my understanding that the Fish & Game Commission representative will bring with him the draft of the bill to be presented to the Legislature for our consideration and discussion.

Very truly yours,

Dr. Ritter (1) Johnson Everman
Acofield, Houser, Crandall

Minutes Sept 25th 1916
read & approved.—

Crandall - Sec. Pro-tem —

Mr. Houssel stated that
Carmen would take care of
finances so long as work
concerned ~~[illegible]~~ only x

Report Michael on
Roc. Assn Adv. on Science
on finances.

J. (2)

Geo fish found over 100 mi offshore.

Hansel.

50 mi. S.W. ~~Clemente~~ Santa Cruz

Restricted to shore region so far.

H. Dec 1914 – 4½# fish – off San Pedro
Smallest 3#
3 ton catch – 1 boat

~~J.~~

H. – Plenty of bait throughout channel. –

~~J. [illegible]~~

Resolution. –

~~That Com. Smith be asked~~

~~to come to~~

U.S. Bureau of Fish. – be asked to study ~~study~~ of So. Cal. fishing & bait. question.

That the U.S. Com. of Fisher. be ~~invited~~ ~~asked~~ urged to come

(3)

with a view to locating an expert of fish in So Cal. waters.

Sec. – Houssels
Carried, –

Houssels.

Resolved

That ~~the West~~ it be the sense of this meeting that West end of Santa Catalina be opened to bait catching while the East end be continued as of preserve, it being the object to observe

(4)

the effect of commercial fishing upon the fishes about Catalina.

Seconded
Eveleman

Carried.

Suggested that
C. of C.
Co. Acad. of Science
Co. Com.
Fish & Game Com.
Invite ~~Com.~~ Bu. of Fish.

~~100~~
~~150~~

~~Moved meeting be adjourned~~
Carried.
Crandall.

Fisheries Committee.

Minutes of Meeting Held Tuesday Nov.1st 1916.

The members of the Fisheries Committee were called together at the Hotel Clark for Tuesday afternoon Oct.31st but immediately adjourned to meet on call in San Pedro.

Adjourned meeting was held in the Directors Room of the San Pedro National Bank at 6:30 P.M.

Members present were: W.E.Ritter, Everman, N.B.Scofield, B.Houssells.

Visitors present were Johnson Rankin W.C.Crandall.

Dr.W.E.Ritter presided.

W.C.Crandall acted as secretary protem.

Minutes of Sept.25th were read and approved.

Mr.Houssel stated that the matter of finances would be taken care of by the Tuna Packers so long as the work had to do primarily with problems related to the albacore.

Dr.Ritter reported that Mr.Michael had informed him that it would be impossible for the Pac.Division of the American Ass'n. for the Adv. of Science to assist financially in the work of the Committee.

A general discussion of the albacore situation then followed. Salient facts brought out were :

No fish found beyond 100 mile offshore.

Found all year 50 miles SW of San Clemente.

Dec. 1914. large catch made of fish averaging 4 1/2#.

Throughout present year there has been plenty of bait.

Moved by Everman, seconded by Houssel that the following resolution be adopted:

That the U.S.Bureau of Fisheries be asked and urged to study the So. Cal. fisheries and bait question.

That the U.S.Fisheries Bureau be urged to send a representative to So.Cal. to take up the problems with those interested locally with a

view to locating a field expert in these waters.

Carried.

Moved by Houssel, seconded by Everman that the following resolution be adopted:

That it be the sense of the meeting that the "West Half of Catalina Island" be opened for bait catching while the "East Half" be continued as a preserve, it being the object to observe the effect of commercial fishing upon the supply of fishes about Catalina.

Carried.

It was suggested that the Chairman, Dr. Ritter draft a letter to be sent to the Bureau of Fisheries in accordance with the resolutions concerning the same setting forth in their data that would tend to show the need of a visitation and that copies of the draft be sent to other members of the Committee so that the various bodies represented might follow up with like letters of invitation i.e. Chambers of Commerce: State Fish and Game Commission, Council Academy of Sciences, Packers of Albacore, County Commissioners.

Meeting adjourned to meet on call of the Chairman.

Attest

W. C. Crandall

Secretary Pro Tem.

UNION BUILDING
BROADWAY FROM SECOND TO THIRD STREETS

THE PIONEER NEWSPAPER OF
SOUTHERN CALIFORNIA

The San Diego Union

ESTABLISHED 1868

DAILY AND SUNDAY, $9.00 PER YEAR. WEEKLY, $1.50

THE UNION
IS THE ONLY MORNING NEWSPAPER, GUARANTEES LARGEST CIRCULATION HAS THE ONLY SUNDAY EDITION, AND IS THE LEADING PAPER IN EVERY WAY IN SAN DIEGO

48TH ANNUAL EDITION

SAN DIEGO, CALIFORNIA. Nov. 3.

Mr. W. C. Crandall,
La Jolla, Calif.
Dear Mr. Crandall:

Your favor of second inst. to hand, and we are highly pleased to know that you will contribute to our forthcoming annual edition. If your article arrives about November 15, it will be in time for that section of the big edition for which space has been reserved.

The Union is devoting this year a full page to the kelp industry, deeming it one of the best, as it is the newest of the industries which tend to upbuild this section. We have a splendid layout of photos, including some taken at sea from kelp harvesters. We also have a comprehensive story of the Hercules Company plant and another story taking in the Swift & Co. enterprise.

We intend to make your contribution the feature of the page. Without any intention to flatter you, we consider you the country's foremost authority on kelp, and want to devote much of the space of the page to your contribution. So, do not limit yourself as to space, but make it possible for us to tell the world of this new and great source of wealth. We would like to have a photograph of yourself to include in the lay-out.

Thanking you in advance for what we are sure will be one of the best features of our 48th annual edition,

Yours Truly,

A. H. Brown

Editor UNION ANNUAL EDITION.

San-Pedro-Redondo Beds, Pt. Loma

Statistics

November 5th 1916.

Chief, Bureau of So ls,

Washi gton D.C.

Dear Sir:

Sunday October 22nd I took Mr. Torteous, Lorned Manf Co. on a trip from San edro to Redondo by auto and we were able to see the general condition of the beds from the shore. From appearances the beds are not as thick as I have seen themand I am afraid that they are cutting so much kelp from the beds at the present time that there will be a lack of kelp during t e winter months when it will be next to impossible for the harvesters to go far from their homw base. For sixty days there has been about 950 tons of kelp cut per day from the Point Firmin beds. so that the oppo tunity that I had hoped for that the beds might be given a rest has not been given. My last rep rt on quantities cut then will need to be amplified by this additional cut. One thing shows very clearly and that is that the regr wth has been very rapid during this last summer and fall. If the rate continues during the winter t en our estimates will show as low rather than as high.

Last Sunday afternoon, Oct. 29th, I went to Longbeach in answer to a call from Mr. Thom son for a meeting of those interested in the kelp legislation in California. I spent Monday In Long Beach going over the situatinn with the various kelp companies as well as going through the plants. All the plants are working full blast. Lorned Mnfg has ta en out the socalled Naylor Process and is rearranging all of its vats, driers, etc. They are installing some incinerators that are supposed to illim inate the smoke and odor that comes from the plant as the City of Long Beach has considered passing very stringent laws against the plants claiming that t ey are nuisances and as such should

be abated. All of the companies are trying to get their plants into good working conditions as they realize that they may all be placed in a awkward position if they are cited to appear and show that they are not nuisances. It seems that there is a spirit of fairness in sight now however that will give the companies a fair opportunity to make good in details of their work.

I also went to the Southwest Museum and saw Mr. Alliott, a member of the Los Angeles Cahmber of Commerce who seemed to be on the wrong track so far as the kelp situation is concerned and I had a pleasant interview with him and got him lined around so that he said that he would confer with me about kelp situations so as to get all the facts in the future. It seems that Mr. Alliott thought that he was the only one who had been doing anything in the kelp investigation and that he had never heard of the companies in the field or of the real extent of the work that the Bureau had been doing. He is straight with the work now and I anticipate no further trouble with him.

Tuesday Oct. 31st attended the meeting of theose interested in the kelp situation at Hotel Clark at Los Angeles. I am enclosing the minutes of the meeting which will show what has been done.

Wednesday Nov. 1st I returned to La Jolla.

Nov. 3rd, I went to San Diego at the invitation of Mr. Watson of Swifts Co. and went out on the Point Loma beds. Mr. Talley and Mr. Norman of Hercules were present. We were all about the beds and the beds are showing up in fine shape. They are increased in size and are heavier than they have been since the cutting was first started. These beds have not been touched for about two months at which time

they are practically bear. Now they are fully recovered and are heavier than they have been. They should be allowed to rest for a time yet so that the stipes might have a tije to thicken up and give the maximum yield. This the companies here expect to do. The only difficulty here is that the hand pickers and Blankenberg insist on working and they all go the heaviest places to work and th s are distroying some of the kelp. However I do not feel that there is as much destroyas the other do. At present the big companies are working around San Clemente and they are having great success. Next Wednesday the same party hopes to go to San Clemente and see how things are there. It comes at a bad time for me but I shall try to go over as I have been unable to get over to that island for over a year.

Received the expense books but need the "Voucher for Reimbursement of Traveling Expenses and Station and Field Expenses and for Payment --------Subsistence."

Yours truly

Collaborator.

U!

Condition of Beds-

Nov.14th 1916.

Chief, Bureau of Soils,

Washington, D.C.

Dear Sirs:

Last Wednesday night, I went over to San Clemente Island as the guest of Swift and Co. in their boat the Atlantic. Mr. Telly and others of the Hercules Powder Co were invited but were scared out and failed to show up. We arrived at San Clemente on Thursday morning at 7 A.M. Little kelp is left in Smugglers cove. On the leaside considerable kelp is growing in near Wilsons. In Northwest Harbor the kelp is heavy and thick and continues so down to West harbor. Here the Hercules Powder Co is working. They are using the Kenvil, Joplin and Bacchus harvesters and have cut from West harbor down to Smugglers Cove. Tey have made a clean job of it that far. They have been cutting for six weeks constantly day and night. There is enough kelp in sight to keep them going about three weeks longer. After seeing Clement during Thursday, we ran over during the night to San Juan Capistrano on the main land. Here we follwoed down the Beds that are between that point and San Diego. The beds are all looking in good shape and they have grown back in about six weeks time. From the results of this summer cutting we are safe concerning the cutting of kelp twice a year from the beds. The next question is whether the kelp will grow during the winter months as it has during the summer months.

Hercules and Swift have agreed to stay off from the La Jolla-San Diego beds until after the 1st of the year. This will give them a bed to cut during the stormy season. Swift is to cut from La Jolla

and San Juan Capistrano during the meantime.

The actual figures th t we are now getting from the cutting show only 10% actual material taken in the harvesters as compared to the amounts that we estimated in the various publications. I am gathering as complete data as possible on this phase of the work and hope to have rather a complete report on this soon. There is more th than 10% in the beds but some is lost in harvesting, some is mutilated and sinks, some is not cut, some is cut at high tide and about six feet is lost from the toal growth, some is run under by currents so that the cut is less, but the fact as to the possible practical cut with the present methods is apparent. Of course this figure is the one upon which the actualwork must be done.

At present 1/5 of the beds of the beds from San-Diego- Puget Sound are being harvested. 4/5 of the cut from San Diego-Santa Monieca is being cut by Hercules Powder and Swift.

Sincerely yours,

Collaborator.

ALL QUOTATIONS SUBJECT TO CHANGE WITHOUT NOTICE

CABLE ADDRESS "HERPOCO"

HERCULES POWDER CO.

CHICAGO, ILL.
DENVER, COL.
HAZLETON, PA.
PITTSBURG, KAN.
JOPLIN, MO.
NEW YORK, N.Y.
PITTSBURGH, PA.
SALT LAKE CITY, UTAH
SAN FRANCISCO, CAL.
ST. LOUIS, MO.
WILMINGTON, DEL.
MEMPHIS, TENN.

MANUFACTURERS OF EXPLOSIVES

DYNAMITE
GELATIN DYNAMITE
BLASTING GELATIN
PERMISSIBLE POWDERS
BLASTING SUPPLIES
BLASTING POWDER
BLACK SPORTING POWDERS
SMOKELESS SHOTGUN POWDERS
SMOKELESS RIFLE POWDERS

San Diego, Calif.

November 15, 1916.

Captain W. C. Crandall,

Biological Station,

La Jolla, California.

Dear Sir:-

Complying with your telephoned request we are submitting the attached list of figures showing the tons of kelp cut since August 19th from the various beds along the coast. Trusting this is the information you desire and with best wishes, we are,

Yours very truly,

HERCULES POWDER COMPANY

Per W S T Sunbahn

WSB:D

ENC.

SAFETY FIRST—USE PERMISSIBLE EXPLOSIVES THAT DO NOT REQUIRE THAWING

AWARDED THE GRAND PRIZE FOR SMOKELESS SHOTGUN POWDERS AND THE MEDAL OF HONOR FOR HIGH EXPLOSIVES PANAMA-PACIFIC EXPOSITION.

H

THE LORNED MANUFACTURING COMPANY
INCORPORATED

G. W. SIMMONS, PRESIDENT
L. H. THOMPSON, VICE-PRES. AND SECY.
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER

MAKERS OF
POTASH AND FERTILIZERS

1724 WHITEHALL BUILDING
NEW YORK CITY
910 SPRUCE STREET
ST. LOUIS
FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.,
November 21, 1916.

Dr. W. C. Crandall,
Scripps Institute,
La Jolla, California.

Dear Dr. Crandall:

Kindly pardon my delay in not sending you are cutting returns sooner. It was entirely my fault as I had a notation laid out some time ago and neglected to send it. It is three thousand, seven hundred eighty-one tons from August 19th to October 31st.

Again asking you to pardon delay, and sending our regards to Mrs. Crandall, I am

Respectfully,

Edw. J. Portous

EJP*ELB

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

CES

November 22, 1916.

Capt. W. C. Crandall,
Marine Biological Institute,
La Jolla, California.

Dear Captain:

I am leaving Saturday night for Los Angeles, where I expect to arrive on the 29th. I shall be in California for only a few days, making a hurried trip out to see about certain concessions for kelp groves. I suppose there is nothing of any great importance for us to take up. If there is, drop me a line at the Virginia, Long Beach. If you are planning a trip to Los Angeles for the near future why not make it for about December 1; then we can get together?

With my best to you and Mrs. Crandall,

Yours very sincerely,

J. W. TURRENTINE

Scientist.

CES

November 22, 1918.

Capt. W. C. Crandall,
Marine Biological Institute,
La Jolla, California.

Dear Captain:

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With my best to you and Mrs. Crandall,

Yours very sincerely,

J. W. TURRENTINE

Scientist.

II M-680-680-
25 680 1873
2 C/86 280
208-1373

STATE OF CALIFORNIA
FISH AND GAME COMMISSION

F. M. NEWBERT PRESIDENT SACRAMENTO
M. J. CONNELL COMMISSIONER LOS ANGELES CARL WESTERFELD COMMISSIONER SAN FRANCISCO
ERNEST SCHAEFFLE SECRETARY SAN FRANCISCO

San Francisco, Cal.,
December 2, 1916.

Mr. W. C. Crandall,
La Jolla, Cal.

Dear Mr. Crandall:-

Your letter of November 28th. has been received.

We received a letter from Mr. Thompson in which he said Dr. Turrentine was expected about the first of December and suggesting that the meeting with the kelp people be set sometime between the 5th. and 10th. of December that Dr. Turrentine may be with us.

We wrote Mr. Thompson to set a tentative date when Dr. Turrentine gets here. That any time after the 5th. will be all right. Mr. Westerfeld thinks he can attend if the meeting is put off until that time.

We wish to get down at least a day before the meeting so that we can discuss the matter of rules and regulations with you and Dr. Turrentine.

Copies of the bill we have drawn up will be sent out Monday, and we will see that one is sent to you.

Yours very truly,

N. B. Scofield

Form 1204

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT

6By Ca 12

By SanFrancisco,Calif., 218pm Dec. 8 1916

W. C. Crandall,

LaJolla,Cal.

Meeting SanDiego next Wednesday or Thursday will telegraph Thompson definite date tomorrow.

N. B.Scofield.

245pm

Joined Bud 4277

THE LORNED MANUFACTURING COMPANY
INCORPORATED

G. W. SIMMONS, PRESIDENT
L. H. THOMPSON, VICE-PRES. AND SECY.
A. H. BRYANT, VICE-PRESIDENT
L. S. HASLAM, TREASURER

MAKERS OF
POTASH AND FERTILIZERS

1724 WHITEHALL BUILDING
NEW YORK CITY
910 SPRUCE STREET
ST. LOUIS
FACTORY AT
LONG BEACH, CAL.

Long Beach, Calif.,
December 9, 1916.

Dr. W. C. Crandall,
Scripps Biological Institute,
La Jolla, California.

Dear Dr. Crandall:

The Fish and Game Commission has sent me several copies of the proposed bill regulating the cutting of kelp to distribute among those interested. I enclose a copy for you and an extra one for any other gentlemen at La Jolla that are interested.

I also have a telegram from the Fish & Game Commission stating that next Wednesday or Thursday would suit them best for the meeting. I have wired them that that date suits the manufacturers here, and asked them to advise us definitely the date of the meeting.

I have just received word that takes me to San Francisco tomorrow and I will probably be there Monday and Tuesday and possibly Wednesday of next week. It seems, therefore, that it will be impossible for me to attend the meeting at San Diego. I am very sorry because I am interested in this matter, but of course my absence will make no difference. I want you to know, however, that if I have to remain away, it is only because it is impossible for me to get there in spite of my desire to do so.

Dr. Turrentine has been here for just a few days to appear before the Santa Barbara County Supervisors, and has gone back east in hopes that he can come back here to stay shortly after the first of January.

As I understand it, the meeting at San Diego will discuss this final draft of bill and adoptit--and also discuss in a preliminary way rules and regulations. These rules and regulations are very important, and will probably take more than one or two meetings to get them in shape; and there is plenty of time to do it because they will not come up for enforcement until the bill is effective. The thing to do now is to get the bill in proper shape and present it to the legislature in a proper way. I think we can count on Turrentine at all the other meetings we have, and aside from whatever

knowledge Turrentine has on this subject, I think it is very good policy to have him in all of these things because he directly represents the Federal government in this matter. Turrentine and you representing the Federal government, the Fish and Game Commission the State, and all of the manufacturers taking part, it seems to me we have an ideal groundwork on which to build practical, operative legislation and rules.

In case I am not able to attend the meeting next week, you have a copy of the minutes of the last meeting which I sent you, and I will ask you kindly to express my regrets at not being able to be present. I am getting promises from as many men here as possible to attend.

Very truly yours,

L. H. Thompson

Enclosure

LHT*ELB

P.S. I am just in receipt of a telegram from the Fish and Game Commission setting the date of the next meeting of the Commission with the manufacturers for Thursday morning, December 14th, at Hotel Grant, San Diego, at 10 o'clock.

I intended to introduce at this meeting a copy of the Santa Barbara County Ordinance, but as I will not be able to come, I enclose it herewith for you to look over and bring up at the meeting if you think best. I talked to the District Attorney of Santa Barbara County last week about this Ordinance and he realizes that the State Ordinance supercedes it. I think, however, that the attorney who finally puts the State Bill into form should see this Ordinance and make sure that the royalty provisions and other provisions that would naturally conflict between this Bill and the State Bill are so thoroughly covered in the State Bill that there can be no question.

Enclosure

Whereas, the new economic conditions relating to the nation's food supply brought upon us by the world-war, make it vitally important that there should be a more thorough development, a greater utilization, and a more intelligent conservation of our fishery resources, and

Whereas, the Federal Government maintains more than sixty agricultural experiment stations, each liberally equipped with materials, funds and men engaged in investigation and experimentation in the interests of agriculture, and

Whereas, the Federal Government has as yet only one or two very poorly equipped and cheaply conducted stations at which investigation and experimentation in the interests of aquiculture may be carried on, therefore be it

Resolved, by the Committee on Zoological Investigations, working under authority of the Committee on Scientific Research of the State Council of Defense of California, that the Congress be requested to provide at least five fisheries experiment stations, equipped with materials, funds and expert and practical personnel to do for the products of the seas, rivers and lakes what the agricultural experiment stations and the Department of Agriculture are doing so well for the products of the land.

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Dec.9th 1916.

rthur P.Hill,

Sacramento,Cal.

Dear Sir:

Your letter of the 7th is at hand. At present Los Angeles Co. has an ordinance that requires each company cutting kelp to puta up $5.00 for a permit. Santa Barbara Co. was g oing to pass a ordinace but I have not heard that it has.

Next Wednesday, those interested in the Kelp Legislation will meet in San Diego for a conference on a bill the Mr.Scofield of the Fish and Game Commission is to present. There have been two preliminary meetings to consider the best bill that seems to be advisable at the present time.

The Los Angeles Chamber of Commerce and the San Diego Chamber of Commerce have committees that are looking into the matter of kelp legislation.

For detailed information concerning the present status of kelp legislation,I shoulf refer you to Mr.N.B.Scofield, Fish and Game Commission, San Francisco,Cal.

Sincerely yours

W Crandall

1017 West 45th St.,
Los Angeles, Calif.
December 11th, 1916.

Capt. W. C. Crandall,
Scripps Biological Institution,
La Jolla, Calif.

Dear Sir:

I am desirous of securing all information I possibly can regarding the kelp industry. I have secured some pamphlets and a set of maps of the Pacific Coast from the Chief of Bureau of Soils at Washington, who referred me to you for further information.

Thanking you in advance for any additional information you can furnish me with, I am

Very truly yours,

C. G. De Plauty
MDP

CGD-MDP

MINUTES OF KELP MEETING
held
December 14, 1916

A meeting of those interested and engaged in the kelp industries was called at request of N.B.Scofield at 10 a.m. in the U.S.Grant Hotel, San Diego, Calif. The following were present:

1	Scofield, N.B.	Cal. Fish and Game Commission.
	Westerfelt	Cal. Fish and Game Commission.
2	Talley, Herbert	Hercules Powder Co.
	Bent, L.N.	Hercules Powder Co.
3	Judson, Howard W.	Oceanic & Sea Products Co.
4	Ennis, Geo. H.	Pacific Products Co.
5	Porteous, Edw. J.	Lorned Mfg. Co.
6	Briggs, G.E.	Swift and Co.
7	Peipper	Diamond Match Co.
8	Smith	Southern Reduction Co.
	Moulton, M.M.	San Diego Chamber of Commerce.
9	Crandall, W.C.	Scripps Instu Biol. Research.
	Michael, E.L.	Scripps Inst. Biol. Research.

Mr. N.B. Scofield was in the chair, and Mr. E.L. Michael acted as secretary for the meeting.

After the minutes of the preceeding meeting, held Oct. 31, 1916 were read and approved, it was moved by Mr. Crandall, seconded by Mr. Ennis, and carried that the redraft of the bill proposed for kelp legislation be taken up section by section.

It was agreed without formal motion that the licence tax be placed at $10.00, so that that part of section 4 would read as follows: "The licence herein provided for shall be issued to such applicant upon payment of $10.00, and before such licence is delivered etc."

It was moved by Mr. Judson, seconded by Mr. Briggs, and carried that a priviledge tax of 1¢ per wet ton of kelp harvested be tentatively accepted, providing the state will appropriate sufficient funds to build a patrol boat and maintain it for a period of two years. The last part of section 4

would therefore read as follows:- "----and in addition to said licence fee every person, firm, or corporation taking or harvesting kelp shall pay a priviledge tax of 1¢ per ~~ø~~/ ton of wet kelp taken or harvested."

Moved by Mr. Briggs, seconded by Mr. Peipper, and carried that in section 5 " before the 5th" be changed to read "before the 10th " as indicated in the clause hereby quoted: "---every person, firm, or corporation engaged in taking or harvesting kelp shall on or before the 10th (formerly the 5th) day after the last day of each month etc."

Moved by Mr. Talley, seconded by Mr. Judson, and carried that the last clause of section 7 reading ---"his licence shall be revoked for a period of one year" be changed so as to read ---" his licence may be revoked for a period not to exceed one year."

Moved by Mr. Briggs, seconded by Mr. Talley, and carried that the last half of the clause of section 8 reading ---" said Board of Fish and Game Commissioners shall, after a hearing, as provided herein, revoke said licence for the remainder of the period for which such licence shall have been issued, and no licence shall be issued to any such person, firm, or corporation for a period of one year thereafter. "----be changed so as to read ----" said Board of Fish and Game Commissioners may, after a hearing, as herein provided, revoke said licence and withold the issuance of a new licence to any such person, firm, or corporation for a period not to exceed one year thereafter. "

Moved by Mr. Briggs, seconded by Mr. Talley, and carried that the last paragraph of section 9 (which follows) be stricken out. " Nothing in this act shall prohibit the Board of Fish and Game Commissioners or any United States department authorized by them from taking or harvesting kelp at any and all times for scientific ~~d~~ or experimental purposes. "

Moved by Mr. Crandall, seconded by Mr. Judson, and carried that the meeting adjourn subject to call by the chairman, Mr. N.B.Scofield.

Attest:

Ellis L. Michael, Secretary.

Form 1204

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

RECEIVED AT

By Ca 26 Govt

A Washington DC 421pm Dec. 16,1916

W. C. Crandall,

Scripps Biol. Inst., LaJolla,Cal.

Please wire us detailed account of meeting between Fish and Game Commission and Kelp operators.

Fredick A. Brown.

205pm

Joned Scripps 2 15 P

Crandall not here. Will have him
~~your agent~~ write ~~you~~ soon as located

Form 1204

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

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RECEIVED AT *2029 Shattuck Ave., Berkeley, Calif.*

104SFMC 43 NL

LAJOLLA CALIF DEC 17 1916

W C CRANDALL

92 CARE COMPTROLLERS OFFICE UNIVERSITY OF CALIF BERKELEY CALIF

TELEGRAM FROM FREDERICK A BROWN WASHINGTON ASKING FOR DETAILED ACCOUNT BY TELEGRAM OF CONFERENCE BETWEEN FISH AND GAME COMMISSION AND KELP COMPANY MICHAEL WIRED HIM YOU WERE AWAY WOULD HAVE YOU WIRE WHEN LOCATED ELKS OUTFIT THEMSELVES IN PLAY BURDICK WENT WITH LOVE

LAURA

840PM

7:10 7 59 10 35

8 53 9 42 12 30

Telegraph Ave. – to end line

Dec.18th 1916.

Chief,Bureau of Soils,

Washington,D.C.

Dear Sir:

In compliance with your telegram, I am sending you the bill as proposed by the Fish and Game Commission and accepted by the Kelp Manufacturers at San Diego,Thursday last. The last clause was the cause of much discussion and I was not well enough informed to be able to state the exact intention of the Bureau in their work. There is no desire on the part of any of the men involved to hamper the work of the Bureau in any way but in the absence of Dr.Turrentine and Mr.Thomson of the Larned Mnf. Co., no one was able to explain just the intent of the Bureau as I did not see Dr. urrentine duing his last visit. The objection to a bureau plant being established without any restriction however was not thought wise as some of the men suggested that a bed near some of the plants might be closed by the Fish and Game Commission and the Bureau might then go in and cut the bed out without giving them a fair opportunity in a bed that they might logically expect to cut. A thing that was not understood also was what the Bureau expected to to do with a plant cutting 200 tons per day i.e. whether it was intended to cut for an indefinitely long period or only for short periods and also whether the Bureau intends to sell the products. In short the arrangements between the Larned Mnf.Co. and the Bureau regarding the sale of products was not known. It is very unfortunate that Dr.Turrentine was not present at the meeting to explain in detail what he expected to do as the Fish and Game Commission would be in a better position at this end to deal justly and cooperatetively with the Bureau in the

matters concerning the kelp situation. All the people involved are anxious to act when they can do so intelligently. The fact that there was a seeming intent on the part of a few of the men involved together with the Bureau to get in on the ground floor at Santa Barbara and shut the other people out brought up the discussion as it occured. So far as the Santa Barbara ordinance is concerned, it is the opinion of the Attorney of the Fish and Game Commission that the ordinance is non effective in so far as the beds are concerned and that the County of Santa Barbara only has power to exact a tax upon kelp that is handled on the shore i.e. that they cannot exact or control the taking or harvesting of kelp from the beds. T is ill probably lead to a case being brought in court to decide this.

In looking over the Santa Barbara ordinance, I notice that the Bureau is not exempted from the privelege tax for its work. Probably there is an agreement to that effect but it is not apparent in the ordinance.

Regarding the proposed bill for the Fish and Game Commission, this will probably be amended before final action is taken. It will be presented after the legislature meets Jan.9th and will then go over until the second session in March when it will be up for final reading and passage. Any suggestions that you have may be taken up any time previous to the final passage of the bill. The bill would not become an operative law until 90 days after passage or sometime in August.

I shall be in La Jolla by the 25th.

Sincerely yours

C.

Form 1207

CLASS OF SERVICE DESIRED	
Fast Day Message	
Day Letter	
Night Message	
Night Letter	

Patrons should mark an X opposite the class of service desired; OTHERWISE THE TELEGRAM WILL BE TRANSMITTED AS A FAST DAY MESSAGE.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT

Receiver's No.
Check
Time Filed

Send the following telegram, subject to the terms on back hereof, which are hereby agreed to

Dec 18 1916

To Soils

Washington D.C.

Bill outlined by Fish and Game Commission passed at meeting will send revised bill this afternoon after conference Commission

Crandall

SENDER'S ADDRESS FOR ANSWER

SENDER'S TELEPHONE NUMBER

ALL TELEGRAMS TAKEN BY THIS COMPANY ARE SUBJECT TO THE FOLLOWING TERMS:

To guard against mistakes or delays, the sender of a telegram should order it REPEATED that is, telegraphed back to the originating office for comparison. For this one-half the unrepeated telegram rate is charged in addition. Unless otherwise indicated on its face, THIS IS AN UNREPEATED TELEGRAM AND PAID FOR AS SUCH, in consideration whereof it is agreed between the sender of the telegram and this Company as follows:

1. The Company shall not be liable for mistakes or delays in the transmission or delivery, or for non-delivery, of any UNREPEATED telegram, beyond the amount received for sending the same; nor for mistakes or delays in the transmission or delivery, or for non-delivery, of any REPEATED telegram, beyond fifty times the sum received for sending the same, *unless specially valued;* nor in any case for delays arising from unavoidable interruption in the working of its lines; *nor for errors in cipher or obscure telegrams.*

2. In any event the Company shall not be liable for damages for any mistakes or delays in the transmission or delivery, or for the non-delivery, of this telegram, whether caused by the negligence of its servants or otherwise, beyond the sum of FIFTY DOLLARS, at which amount this telegram is hereby valued, unless a greater value is stated in writing hereon at the time the telegram is offered to the Company for transmission, and an additional sum paid or agreed to be paid based on such value equal to one-tenth of one per cent. thereof.

3. The Company is hereby made the agent of the sender, without liability, to forward this telegram over the lines of any other Company when necessary to reach its destination.

4. Telegrams will be delivered free within one-half mile of the Company's office in towns of 5,000 population or less, and within one mile of such office in other cities or towns. Beyond these limits the Company does not undertake to make delivery, but will, without liability, at the sender's request, as his agent and at his expense, endeavor to contract for him for such delivery at a reasonable price.

5. No responsibility attaches to the Company concerning telegrams until the same are accepted at one of its transmitting offices; and if a telegram is sent to such office by one of the Company's messengers, he acts for that purpose as the agent of the sender.

6. The Company will not be liable for damages or statutory penalties in any case where the claim is not presented in writing within sixty days after the telegram is filed with the Company for transmission.

7. *Special terms governing the transmission of messages under the classes of messages enumerated below shall apply to messages in each of such respective classes in addition to all the foregoing terms.*

8. *No employee of the Company is authorized to vary the foregoing.*

THE WESTERN UNION TELEGRAPH COMPANY
INCORPORATED
NEWCOMB CARLTON, PRESIDENT

CLASSES OF SERVICE

FAST DAY MESSAGES

A full-rate expedited service.

NIGHT MESSAGES

Accepted up to 2.00 A.M. at reduced rates to be sent during the night and delivered not earlier than the morning of the ensuing business day.

DAY LETTERS

A deferred day service at rates lower than the standard day message rates as follows: One and one-half times the standard Night Letter rate for the transmission of 50 words or less and one-fifth of the initial rate for each additional 10 words or less.

SPECIAL TERMS APPLYING TO DAY LETTERS:

In further consideration of the reduced rate for this special "Day Letter" service, the following special terms in addition to those enumerated above are hereby agreed to:

A. Day Letters may be forwarded by the Telegraph Company as a deferred service and the transmission and delivery of such Day Letters is, in all respects, subordinate to the priority of transmission and delivery of regular telegrams.

B. Day Letters shall be written in plain English. Code language is not permissible.

C. This Day Letter may be delivered by the Telegraph Company by telephoning the same to the addressee, and such delivery shall be a complete discharge of the obligation of the Telegraph Company to deliver.

D. This Day Letter is received subject to the express understanding and agreement that the Company does not undertake that a Day Letter shall be delivered on the day of its date absolutely and at all events; but that the Company's obligation in this respect is subject to the condition that there shall remain sufficient time for the transmission and delivery of such Day Letter on the day of its date during regular office hours, subject to the priority of the transmission of regular telegrams under the conditions named above.

No employee of the Company is authorized to vary the foregoing.

NIGHT LETTERS

Accepted up to 2.00 A.M. for delivery on the morning of the ensuing business day, at rates still lower than standard night message rates, as follows: The standard day rate for 10 words shall be charged for the transmission of 50 words or less, and one-fifth of such standard day rate for 10 words shall be charged for each additional 10 words or less.

SPECIAL TERMS APPLYING TO NIGHT LETTERS:

In further consideration of the reduced rate for this special "Night Letter" service, the following special terms in addition to those enumerated above are hereby agreed to:

A. Night Letters may at the option of the Telegraph Company be mailed at destination to the addressees, and the Company shall be deemed to have discharged its obligation in such cases with respect to delivery by mailing such Night Letters at destination, postage prepaid.

B. Night Letters shall be written in plain English. Code language is not permissible.

No employee of the Company is authorized to vary the foregoing.

Send me any information on the Kelp industry

St Johns
Oregon
Dec 19 - 1916

Captain W. C. Crandall
Dear Sir
as I am trying to get the
address of the men who
buys the powder for the
U. S. government and
enny other firms that
buy powder as I am contem
plating going into the kelp
business enny information
in this line will be very
much appreciated as you have
been recommended to me as a
good man to write to on this
subject; thanking you in advance
I am yours for success S. J. Galloway

Form 1204

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

WESTERN UNION TELEGRAM

NEWCOMB CARLTON, PRESIDENT

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	Blue
Night Message	Nite
Night Letter	N L

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RECEIVED AT *Cor. Adeline and Alcatraz*
South Berkeley, Calif.

208SF WE 49NL

LA JOLLA CAL DEC 20 1916

W C CRANDALL
06 CARE ELKS CLUB BERKELEY

WHITNEY TELEGRAPHED USE YOUR INFLUENCE WITH COMMISSION FOR RESTORING LAST PARAGRAPH SECTION NINE OF PROPOSED BILL FAVORING DEPARTMENTAL PLANT MICHAEL GOES TO AGASSIZ EARLY THURSDAY WITH LIST YOU SENT GARDNER KELP MAN BOTANY DEPARTMENT BERKELEY HERE YESTERDAY SAID BE HERE FEW DAYS I CANNOT FIND WHERE STOPPING GOOD LUCK

LAURA
923PM

(Postal) Telegram.

Washington, D. C. Dec. 20th.

Mr. W. C. Crandall,

Use your influence with commission to have last paragraph Section 9, of proposed bill restored, favoring Departmental Plant.

Signed - Whitney.

(Forwarded from Berkeley)

CABLE ADDRESS "HERPOCO"

HERCULES POWDER CO.

CHICAGO, ILL.
DENVER, COL.
HAZLETON, PA.
PITTSBURG, KAN.
JOPLIN, MO.
NEW YORK, N.Y.
PITTSBURGH, PA.
SALT LAKE CITY, UTAH
SAN FRANCISCO, CAL.
ST. LOUIS, MO.
WILMINGTON, DEL.
MEMPHIS, TENN.

MANUFACTURERS OF EXPLOSIVES

DYNAMITE
GELATIN DYNAMITE
BLASTING GELATIN
PERMISSIBLE POWDERS
BLASTING SUPPLIES
BLASTING POWDER
BLACK SPORTING POWDERS
SMOKELESS SHOTGUN POWDERS
SMOKELESS RIFLE POWDERS

Wilmington, Del.,
December 13, 1916.

Chief, Bureau of Soils,
U. S. Department of Agriculture,
Washington, D. C.

Dear Sir:

Attention Dr. J. W. Turrentine.

I gave you the information when I last saw you in Los Angeles that any doubt that I might at any time have had regarding the question of the kelp beds reproducing themselves after they have been cut over had been removed by our actual experience with the beds along the coast near the mouth of San Diego Bay.

I think I mentioned to you at that time that the quantity that we secured in the Point Loma bed was only about one-third what our own survey had shown and that that survey had shown a much smaller quantity available than was shown in the Government report. Since that time our further experience at San Clemente and in the coast beds other than Point Loma has been such that I feel sure it will be interesting to you to learn just what our experience has been.

Since we started harvesting kelp we have gathered almost exactly 100,000 tons. During the same period Swift and Company have probably gathered from one-fifth to one-fourth of this quantity, say 20,000 tons, or a total for the two of us of approximately 120,000 tons. During this time, from about the middle of May to date, we have cut over all of the beds along the California coast from the Mexican line to San Juan Point. We have also cut over the beds surrounding San Clemente Island and have cut some kelp around Santa Barbara Island, although I have not been definitely advised whether we secured all of the kelp at the latter point.

Our own surveys for the coast beds showed a total of 275,000 tons and for San Clemente 125,000 tons. Just before commencing operations at San Clemente we had our surveyor make a new observation of those beds and he reported that they were nearly 50% heavier than at the time of his survey late in 1915, so that if this addition be made the total kelp in the beds that we have cut over according to our own surveys amounted to 460,000 tons, out of which beds there have been secured 120,000 tons or approximately one-fourth of our own survey.

For all of the kelp beds from the Mexican border to Point Concepcion our surveyor definitely located 1,043,000 tons and estimated in beds that he did not accurately survey, principally the Islands of San Nicolas, Santa Cruz and Santa Rose, 940,000 tons or a total of slightly less than 2,000,000 tons between the Mexican line and Point Concepcion, within which limits the Government survey, in report No. 100, indicates a total of 9,000,000 tons or four and one-half times the amount shown by our survey.

Inasmuch as our experience has shown available one-fourth of the kelp located on our survey and our survey was between one-fourth and one-fifth of the Government's report, it will be seen that our experience has shown that kelp can be secured to the extent of approximately one-twentieth what the Government reports. I also note that the Government report shows potassium chloride in fresh kelp to the extent of about 3½%, while our experience has shown only slightly in excess of 2%, so that if the Government figures be corrected to the basis of our experience, both in kelp tonnage and in potassium chloride content, it would appear that there is available between Point Concepcion and the Mexican line, figuring two crops to the year, approximately 18,000 tons of potassium chloride instead of 696,000 tons as the Government indicates.

Inasmuch as our experience in the San Clemente bed, in the coast beds as a whole and in the individual beds, so far as we were able to segregate our records, showed about the same relation to our surveys, it would seem reasonable to expect the same percentage to maintain should we be forced to cut over more distant beds.

In view of the tremendous difference between the potash available from kelp as shown by our experience and the estimates as shown by the Government reports,

HERCULES POWDER

it would seem that your efforts to develop the kelp industry would not seem to have much chance of success if actual experience in other beds is the same as in those that we have harvested, and I am frank to confess that while at the time that I saw ~~it~~ you in California I felt that the supply of kelp was so large that not only would we welcome your study of kelp because of the knowledge that we might gather from your experiments, but that we would not fear any competition that might enter the field owing to the apparently unlimited supplies of raw material. In view of the later experiences we have had, I can not help feeling somewhat disturbed and alarmed at the possibility that others might be led into the field merely by the fact that the Government was studying the subject and that a few plants, if not of the size of the experimental plant that you contemplate building, would so reduce the supply available that we would find ourselves practically unable to continue operations, so that I wish that this information might enable you to induce the Government to spend some further sums on more accurate surveys of the kelp beds and in the study of methods of propagation of kelp and the enlargement of the beds.

I understand from Mr. Talley that you were expected to return to the Coast before long, and not only will all of our representatives be glad to see you in San Diego, but,as I expect to be in the East for some time,I would appreciate your stopping off in Wilmington if you have occasion to pass through here,as you doubtless do from time to time.

Yours very truly,

G. H. Mitchell

TREASURER.

GHM EMH

Attitude toward Kelp Investigation

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

JWT-CKU

INVESTIGATION OF FERTILIZER RESOURCES.

December twenty,
1 9 1 6.

Capt. W. C. Crandall,
Scripps Marine Biological Station,
La Jolla, California.

Dear Capt. Crandall:

Inclosed herewith I am sending you a copy of the letter just received from Mr. Markell of the Hercules Powder Company. I am sorry that I cannot discuss this matter with you verbally, for there are some important points to it, some of which do not appear on the surface, I am afraid, and can scarcely be discussed in a letter of this kind.

The important thing, to my mind, in this letter is not so much the supply of kelp, but the fact that we evidently are to have no longer the support of the Hercules Powder Company. As you know, the Swift Fertilizer Company has lined up with the Hercules Company in taking a stand against the Department's work. You are informed, no doubt, of the action proposed and put through by the representatives of these two companies at the recent meeting at San Diego. I am very sorry indeed that you or somebody representing our interests were not present. I should have been there myself if I had had any idea that any such situation was going to develop. As I see it, the Department does not propose to force its help upon the kelp industry, if the kelp industry does not want it. The question is broader and bigger by far than the concerns now engaged in the

extraction of potash from kelp. At the same time, our work has been planned primarily to help them. If they do not want our help, and if they are going to oppose us in our work, then there remains nothing for us to do but to modify our plans.

I very much desire to have a departmental plant exempted from the various regulations which I anticipate will be imposed upon the kelp industry. It was a source of great satisfaction to us to have our work given recognition by the item in the proposed bill, exempting us to a large degree from the regulations proposed by the bill. I am especially anxious that such a recognition be given us since Mr. Westerfeld of the Commission has expressed publicly his suspicions of our purposes. I am doing what I can at this distance to have the item giving us exemption restored to the bill. I rather doubt my success. I hope you will do all that you can to bring about that purpose. In all of our dealings in this matter we have been perfectly open and aboveboard, having done all that we could to help the Commission secure control of the kelp, and we feel keenly this new attitude that they have assumed with regard to us. We see why the private interests concerned might think it to their advantage not to have the kelp industry developed further, but it certainly looks as though the Fish and Game Commission ought to be farsighted enough to see that anything that is to our advantage in this matter must also be to theirs.

Capt. W. C. Crandall 12/20/16.

extraction of potash from kelp. At the same time, our work has been planned primarily to help them. If they do not want our help, and if they are going to oppose us in our work, then there remains nothing for us to do but to modify our plans.

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Capt. W. C. Crandall 12/20/16.

Please get in touch with Tally, Briggs & Watson, and see if you can bring them to reason, and do what you can in other ways to safeguard our interests in this matter.

I am sorry I could not get down to see you during my recent visit. I was in a great hurry and returned immediately on finishing the work I went out especially to do.

Thanking you in anticipation for your early attention to these matters, and with all good wishes, I am,

Very truly yours,

J. W. Furnas

Scientist.

Capt. W. C. Crandall 12/20/16.

Please get in touch with Tally, Briggs & Watson, and see if you can bring them to reason, and do what you can in other ways to safeguard our interests in this matter.

I am sorry I could not get down to see you during my recent visit. I was in a great hurry and returned immediately on finishing the work I went out especially to do.

Thanking you in anticipation for your early attention to these matters, and with all good wishes, I am,

Very truly yours,

Scientist.

Dec.23rd 1916.

Mr.S.J.Galloway,

St.Johns Oregon,

My dear Mr.Galloway:

Your letter of th 19th is at hand.

I do not know whos are buying powder for the U S.Gov't. This you will have to take up with the OrdnanceDept Washington D.C.

Hercules Powder Co. Chula Vista Cal. are probably men that you want to get into contact with.

The questions th t you ask do not really come in my dept and I am sorry but I am unable to answer them fully.

Copy of Report 100 may be gotten from the Bureau of oils,Washington

Sincerely yours

W C Crandall

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

PHYSICAL AND CHEMICAL INVESTIGATIONS.

La Jolla, Cal.

Dec. 23rd 1916.

Chief, Bureau of Soils,
Washington D.C.

Dear Sir:

I saw and had a conference with Mr. Westerfelt, Chief Fish and Game Commission for the tate of California regarding the last clause of the proposed bill to be presented to the Cal. State Legislature.

In his talk he reaffirmed the desire of the Commission to copperate in every way possible with the Bureau of Soils anf hat the only reason for stating the bill as proposed was to place the control in their hands so that there might be no conflict in the future. It seems that the Bureau of Fisheries has just taken out of the streams of Norther Cal all the spawn that it can get of several kinds of fish and that it refuses to let California have any of the spawn or to have anything to do in the matter. It seems that in this case the agreement was drawn up rather losely and the State Fish and Game Commission cannot take spawn from these closed streams at the present time and the Bureau of Fisheries is doing so at the expense of the stock in the streams and also is transporting the sam out of the State. As this matter stands as it does they are determined that there shall be no more misunderstandings and that they shall have the real power of control which has been vested in them.

The matter then sifts itself down to one of the manner that they will settle upon regarding the rules and regulations and the manner of apportioment and allotment of the beds. They are just starting to work upon these and probwbly will not really get to work definitely on them until after the winter's cut.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS.

SOIL SURVEY.

#2.

ADDRESS ALL COMMUNICATIONS TO
"CHIEF, BUREAU OF SOILS."

As stated in my last letter the bill as drawn is only bthe first draft and what will happen to it intthe way of changes and am ndments amy only be conjectured at this time. However it will be presented in some form during January after t en it goes to Committee for further action.

The weak point in the first paragraph that was submitted according to Mr.Westerfelt was that no mention was made of the real amount the intention of the Bureaunof Soils wished to cut. i.e. whether the work was to really be on an experimental scale or regular commercial plant. I suggested to them that the probable intent would be only to make runs in so far as they will demonstrate the usefulness or uselessness of any one method of proceedure. This wouod probavly mean that for a limited period that you would want to cut the capacity tonnage of the plant for a few days and th then you would want to turn to some new method and tye plant would lie idle so far as the harvesting was concerned until the new method were put in. Here was where we clashed however as they do not feel that they are assured of such action. I would suggest that you take the matter up directly with Mr.Westerfelt,Executive, The New Call Bldg., San Francisco,Cal. I was unable to give facts that I was afraid to say much as I might spoil the entire situation. If thoroughly advised, I might be able to get the various men involved into line.

Personnally,I feel that the time will soon be here when the logical method for taking care of the distribution will be that of setting aside definite beds for definite parties and that the best results will be gained from this proceedure.

The Aliceil,Swifts large harvester is a total loss if today's reports are correct. They will be able to save the machinery. Hercules Powder Co. have taken over the salvaging.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF SOILS,
WASHINGTON, D. C.

ADDRESS ALL COMMUNICATIONS TO
CHIEF, BUREAU OF SOILS.

#3.

INVESTIGATION OF FERTILIZER RESOURCES.

The Aliceil went on the rocks off the Wireless Station about ten days ago inna heayy fog. Fortunately for Swifts they had just bought #3 from Lorned Mnf.Co. s o are able to go ahead with their work.

Last night three barges of the Hercules went ashore above Del Mar and I have not heard whether they have been recovered or not. Also the captain that lost the barges broke out a section of the Hercules Wharf and then came up to San Diego and broke out a part of the Bunker's Wharf. As no sea of any size is running, I don't know what the trouble is unless a heavy undertow has caught the boats in some way.

I have just returned form the North wher I have been for over a week. So far as a real situation is concerned I feel confident that you need feel no anxiety as to the attitude of the Fish and Game Commission and that they will do all in their power to really cooperate in every way. You will not from the amended clause that they put themselves in exactly the same relationship that they do the department.

Sincerly yours,

W G Crandall

Collaborator.

Hotel Alexandria
Los Angeles

1916

Monday

Dear Capt:-

Yours received on my arrival here this morning. I started to Half Moon Bay Saturday but gave it up when I discovered that a land-slide - or something or other - had caused a suspension of traffic on the Ocean Shore R.R. I am sun for talking over the affair with you - as I am for talking over the affair with you. Am afraid my schedule will not permit my return to San Diego, however pleased that would be. As there is such a

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Sally reason for your coming to Los, I'd suggest ~~that~~ you run up here for the council of war. I shall be here for several days, three or four, depending on developments. Come up.

Let me know if you find Lunt still in San Diego, and what he says. Am inclined to believe that Collier and Lunt on a poor imitation of Wilson and his crowd. However, time will tell.

Yours as ever,

Theo